

# Mathematics



## Evelyn Street Primary Academy

Medium Term Plans – Small Steps

## **Evelyn Street Primary Academy – Medium Term Plans**

Our curriculum is built on the National Curriculum and the White Rose Scheme, which we then underpin with First4Maths, NCETM (National Council for Excellence in the Teaching of Mathematics) and the Department for Education's maths guidance 2020 to ensure all of our children are ready to progress to the next step in their learning. The fundamental idea behind our curriculum design is to support our children to be able to perform simpler tasks so they can then move on to perform more complex tasks. Through this 'small step' teaching approach we support our children to develop the necessary skills to become 'deep thinkers'. Learning across the year is linked, ensuring there are plenty of opportunities to revisit core skills and apply learning from other topics within maths. This approach means that our children are able to make rich connections and acquire skills that can be recalled quickly and be transferred and applied in different contexts in Maths and more widely. Children are set into two groups across the year group, with targeted support for those struggling or for those needing deeper challenge. We ensure that maths is taught in creative and engaging ways. Wherever possible, mathematical concepts are introduced and explored within everyday contexts, giving children the chance to experience hands-on learning.

Our aim is to ensure that the three core areas of the national curriculum are covered in all our lessons: fluency, reasoning and problem solving. Children get to practice their maths skills regularly, with a focus on developing their ability to recall and apply their knowledge rapidly and accurately. As well as a daily maths lesson, we teach regular 'arithmetic' lessons which focus on number sense, calculation and fluency, as well as continually recapping prior knowledge.

### **What your child will learn**

- To talk confidently about Maths and their learning, relating it to real life purposes.
- Use acquired vocabulary in lessons and discussions
- Use mathematical methods independently and show perseverance when tackling problems.
- Use different representations of mathematical concepts.

# NURSERY

## Evelyn Street Primary School- Number and Number Patterns

### Maths progression through EYFS Nursery

**Educational Programme:** Developing a strong grounding in number is essential so that all children develop the necessary building blocks to excel mathematically. Children should be able to count confidently, develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers. By providing frequent and varied opportunities to build and apply this understanding - such as using manipulatives, including small pebbles and tens frames for organising counting - children will develop a secure base of knowledge and vocabulary from which mastery of mathematics is built. In addition, it is important that the curriculum includes rich opportunities for children to develop their spatial reasoning skills across all areas of mathematics including shape, space and measures. It is important that children develop positive attitudes and interests in mathematics, look for patterns and relationships, spot connections, 'have a go', talk to adults and peers about what they notice and not be afraid to make mistakes.

#### ELG: Number

■ Have a deep understanding of number to 10, including the composition of each number ■ Subitise (recognise quantities without counting) up to 5 ■ Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts

#### ELG: Numerical Patterns

■ Verbally count beyond 20, recognising the pattern of the counting system ■ Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity ■ Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally

Focus	Place value: Counting	Place value: Represent	Place value: Use and compare	Addition and subtraction; recall, represent, use	Addition and subtraction: Calculation	Addition and subtraction: Solve problems
<b>Nursery Skills, Knowledge &amp; Understanding</b>	<ul style="list-style-type: none"> <li>Enjoy counting verbally as far as they can go</li> <li>Point or touch (tag) each item, saying one number for each item, using the stable order of 1,2,3,4,5</li> <li>Use some number names and number language within play, and may show fascination with large numbers</li> </ul>	<ul style="list-style-type: none"> <li>Begin to recognise numerals 0 to 10</li> <li>Subitise one, two and three objects (without counting)</li> <li>Link numerals with amounts up to 5 and maybe beyond</li> </ul>	<ul style="list-style-type: none"> <li>Compare two small groups of up to five objects, saying when there are the same number of objects in each group, e.g. <i>You've got two, I've got two. Same!</i></li> </ul>	<ul style="list-style-type: none"> <li>Count up to five items, recognising that the last number said represents the total counted so far (cardinal principle)</li> <li>Ascribe mathematical meaning to own marks</li> </ul>	<ul style="list-style-type: none"> <li>Through play and exploration, begin to learn that numbers are made up (composed) of smaller numbers</li> <li>Begin to recognise that each counting number is one more than the one before</li> </ul>	<ul style="list-style-type: none"> <li>Begin to use understanding of number to solve practical problems in play and meaningful activities</li> <li>Separate a group of three or four objects in different ways, beginning to recognise that the total is still the same</li> </ul>
Learning Outcomes	Autumn 1 Colours and feelings	Autumn 2 Families and Celebrations	Spring 1 Traditional Tales	Spring 2 Growing and changing	Summer 1 People Who Help Us	Summer 2 Wild Animals / Zoo
	<ul style="list-style-type: none"> <li>⇒ Engage in open-ended play, developing one-to-one correspondence e.g. <i>one doll in a pram / one peg in each bowl</i></li> <li>⇒ Participate in number songs – beginning to use fingers to represent numbers</li> <li>⇒ Count by rote from 1-5+</li> <li>⇒ Identify a small set that has 'more' or 'less' or the 'same'.</li> </ul>		<ul style="list-style-type: none"> <li>⇒ Count accurately using 1-1 correspondence for numbers 1-3</li> <li>⇒ Identify some representations of numbers 1,2,3,</li> <li>⇒ Begin to subitise 1-3</li> <li>⇒ Match objects to numerals using 1-3</li> <li>⇒ Count by rote to 10</li> </ul>		<ul style="list-style-type: none"> <li>⇒ Count forwards and backwards</li> <li>⇒ Count accurately using 1- correspondence for numbers 1-5</li> <li>⇒ Find 1 more and 1 less than a number between 1 and 5</li> <li>⇒ Begin to subitise to 5</li> <li>⇒ Recognise and order numbers 1-5+</li> </ul>	

□ Children will be exposed to mathematical vocabulary and mathematical experiences in the indoor and outdoor classrooms. □ Through well-chosen resources such as water play, sand play, construction and small world children will be able to play what they know in a purposeful way whilst learning.

## Evelyn Street Primary School - Shape, Space and Measure

### Maths progression through EYFS Nursery

**Educational Programme:** Developing a strong grounding in number is essential so that all children develop the necessary building blocks to excel mathematically. Children should be able to count confidently, develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers. By providing frequent and varied opportunities to build and apply this understanding - such as using manipulatives, including small pebbles and tens frames for organising counting - children will develop a secure base of knowledge and vocabulary from which mastery of mathematics is built. In addition, it is important that the curriculum includes rich opportunities for children to develop their spatial reasoning skills across all areas of mathematics including shape, space and measures. It is important that children develop positive attitudes and interests in mathematics, look for patterns and relationships, spot connections, 'have a go', talk to adults and peers about what they notice and not be afraid to make mistakes.

[ELG – NA](#) \* See Number & Numerical Pattern links

Focus	Spatial Awareness		Shape		Pattern		Measures	
<b>Nursery Skills, Knowledge &amp; Understanding</b>	<ul style="list-style-type: none"> <li>▪ Respond to and uses language of position and direction</li> <li>▪ Predict, move and rotate objects to fit the space or create the shape they would like</li> </ul>		<ul style="list-style-type: none"> <li>▪ Choose items based on their shape which are appropriate for a purpose</li> <li>▪ Know 2D shapes names – circle, triangle, rectangle, square</li> <li>▪ Know some 3D shape names</li> <li>▪ Show awareness of shape similarities and differences between objects</li> <li>▪ Enjoy partitioning and combining shapes to make new shapes with 2D and 3D shapes</li> <li>▪ Attempt to create arches and enclosures when building, using trial and improvement to select blocks</li> </ul>		<ul style="list-style-type: none"> <li>▪ Create their own spatial patterns showing some organisation or regularity</li> <li>▪ Explore and adds to simple linear patterns of two or three repeating items, e.g., <i>stick, leaf (AB) or stick, leaf, stone (ABC)</i></li> <li>▪ Join in with simple patterns in sounds, objects, games and stories dance and movement, predicting what comes next</li> </ul>		<ul style="list-style-type: none"> <li>▪ In meaningful contexts, finds the longer or shorter, heavier or lighter and more/less full of two items</li> <li>▪ Recall a sequence of events in everyday life and stories</li> </ul>	
Learning Outcomes	Autumn 1 Colours and feelings	Autumn 2 Families and Celebrations	Spring 1 Traditional Tales	Spring 2 Growing and changing	Summer 1 People Who Help Us	Summer 2 Wild Animals / Zoo		
	<ul style="list-style-type: none"> <li>⇒ Sort objects by colour using the words <i>same</i> and <i>different</i></li> <li>⇒ Sort different objects by noticing similarities and differences e.g. <i>Autumn items</i></li> <li>⇒ Use the language of size - <i>big/ little, small/large</i></li> <li>⇒ Use language of <i>long</i> and <i>short</i> to describe lengths</li> <li>⇒ Copy a simple repeating pattern.</li> <li>⇒ Follow the daily routine and begin to predict what might happen next with a visual timetable</li> </ul>		<ul style="list-style-type: none"> <li>⇒ Sort objects by shape and size</li> <li>⇒ Begin to continue a repeating pattern</li> <li>⇒ Compare amounts using full / empty to make comparisons</li> <li>⇒ Start to make direct comparisons using longer/ shorter, taller/ shorter to describe</li> <li>⇒ Compare lengths using practical objects and begin to make some comparisons using appropriate language</li> <li>⇒ Name simple 2D shapes of circle, triangle, rectangle and square</li> </ul>		<ul style="list-style-type: none"> <li>⇒ Begin to make own repeating pattern</li> <li>⇒ Describe shapes they see in images and pictures.</li> <li>⇒ Use words such as round/ straight/ flat to describe shape characteristics.</li> <li>⇒ Talk about and sequence the events within a school day</li> <li>⇒ Use time vocabulary of - <i>day/night/today/tomorrow/before/after that</i> to describe when an event is happening</li> <li>⇒ Use words such as heavy/light</li> <li>⇒ Use words of more or less when describing quantities</li> <li>⇒ Use positional language to place and describe items - <i>under/ in/ on/ on top of/ behind/ in front of/</i></li> <li>⇒ Use directional language of up/ down / across to describe locations.</li> </ul>			

□ Children will be exposed to mathematical vocabulary and mathematical experiences in the indoor and outdoor classrooms. □ Through well-chosen resources such as water play, sand play, construction and small world children will be able to play what they know in a purposeful way whilst learning.

# Mathematics – EYFS (reception)

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<p><b>Cardinality &amp; Counting</b> 1.1 Accurate counting of sets of objects 1-5 <b>NB S1 episodes 9 &amp; 10 (1:1 correspondence, cardinality)</b> 1.2 Subitising 1-3 <b>NB S1 episodes 1-4 (Introducing 1, 2 and 3)</b> 1.3 Numeral Recognition to 5</p> <p><b>Composition</b> 1.1 Conceptual subitising - noticing numbers within numbers</p> <p><b>Comparison</b> 1.1 Compare sets 1-5 using vocab of more / fewer / most /fewest</p> <p><b>Shape/Space</b> 1.1 2D shapes and their properties</p> <p><b>Pattern</b> 1.1 Simple AB patterns (complete, copy, make own and spot/correct errors in patterns)</p> <p style="color: green;">A lot of this content should be a recap from Nursery and provide you with baseline assessment data</p>	<p><b>Cardinality &amp; Counting</b> 2.1 Accurate counting of sets of objects 1-10, recognising and ordering numerals 1-10 2.2 Subitising 1-5 <b>NB S1 episodes 6 &amp; 7 (Introducing 4 and 5)</b></p> <p><b>Composition</b> 2.1 Applied conceptual subitising <b>NB S1 episode 11 (Stampolines)</b> 2.2 Inverse operations - splitting and recombining sets of objects 1-5 including on part whole model <b>NB S1 episode 12 (Whole of me)</b></p> <p><b>Comparison</b> 2.1 Compare numbers using vocab of more/less 2.2 Find 1 more using sets of objects on tens frames and on a number track</p> <p><b>Pattern</b> 2.1 identifying unit of repeat – AB &amp; ABC patterns</p>	<p><b>Cardinality &amp; Counting</b> 3.1 Counting backwards 10-1 &amp; ordering numbers 10-1</p> <p><b>Composition</b> 3.1 Systematic approach to partitioning sets of objects 1-5 including on part whole model <b>NB S1 episode 14 (Holes)</b></p> <p><b>Comparison</b> 3.1 Find 1 less using sets of objects on tens frame and on a number track</p> <p><b>Measures</b> 3.1 Height</p> <p><b>Shape/Space</b> 3.1 Spatial vocabulary (in front, behind, in between, on, in, under, first second, third)</p> <p><b>Pattern</b> 3.1 More complex patterns – ABB, ABBC 3.2 Generalising pattern and transferring to another format e.g. link pattern of shapes to movements</p>	<p><b>Composition</b> 4.1 Recall number bonds for numbers 1-5 4.2 Partitioning and recombining sets of objects 6-9 Including on part whole model and tens frame <b>NB S2 episodes 1-5 (Introducing 6-10)</b></p> <p><b>Measures</b> 4.1 Length</p> <p><b>Shape/Space</b> 4.1 Representing spatial relationships as maps Spatial vocabulary (forwards, backwards, up, down, across)</p> <p><b>Pattern (alongside Comparison)</b> 4.1 Numerical Patterns – staircase patterns linked to finding 1 more/1 less using a mental numberline (Comparison)</p> <p style="color: red;">NB S2 episodes 6 &amp; 7 (Just add one &amp; ten green bottles)</p>	<p><b>Cardinality &amp; Counting</b> 5.1 Counting beyond 10 noticing pattern in ones</p> <p><b>Composition</b> 5.1 Systematic approach to splitting and recombining 10 including on tens frame and part whole model 5.2 recall some number bonds for 10 <b>NB S2 Episode 13 (Blast Off!)</b></p> <p><b>Measures</b> 5.1 Mass</p> <p><b>Shape/Space</b> 5.1 3D shapes properties of shapes</p> <p><b>Patterns</b> 5.1 Numerical patterns odds &amp; evens <b>NB S2 episode 11 (Odds &amp; Evens)</b></p>	<p><b>Cardinality &amp; Counting</b> 6.1 Counting beyond 20 noticing pattern in tens</p> <p><b>Measures</b> 6.1 Capacity 6.2 Time – sequence of events</p> <p><b>Shape/Space</b> 6.1 Relationships between shapes</p> <p><b>Pattern (alongside Composition &amp; Comparison)</b> 6.1 Symmetry/reflections – link to doubles 6.2 Share fairly (comparison), Use part whole model to partition numbers where both parts are the same (Composition) and Look at halving as inverse of doubles (Pattern) <b>NB S2 episode 9 (Double Trouble)</b></p> <p style="color: green;">Possible extension Sharing between more than two (comparison) <b>NB S2 episode 8 (Counting Sheep)</b> Splitting into more than 2 parts on a part whole model (composition) <b>NB S2 episode 10 (The three threes)</b></p>

# YEAR 1 Autumn SMALL STEPS AND END GOALS

Autumn	<p style="text-align: center;"><b><u>Number: Place Value (within 10)</u></b></p> <p><b><u>End Goals</u></b></p> <ul style="list-style-type: none"> <li>RTP: NPV1 Count within 100, forwards and backwards, starting with any number.</li> <li>RTP: NPV2 Reason about the location of numbers to 20 within the linear number system, including comparing using <math>&lt;</math> <math>&gt;</math> and <math>=</math></li> <li>NC: count, read and write numbers to 100 in numerals</li> <li>NC: given a number, identify 1 more and 1 less</li> <li>NC: identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least</li> <li>NC: read and write numbers from 1 to 20 in numerals and words.</li> </ul> <p><b><u>Small steps</u></b></p> <ul style="list-style-type: none"> <li>Sort, count and represent objects</li> <li>Recognise numbers as words and write numbers within 10</li> <li>Count forwards backwards from any number 0 to 10</li> <li>Count one more and one less</li> <li>Compare groups (<b>fewer, more and same</b>)</li> <li>Compare groups and introduce symbols <math>&gt;&lt;=</math> (<b>less than, greater than and equal to</b>)</li> <li>Compare numbers</li> <li>Order objects and numbers (<b>including ordinal – first, second, third .</b>)</li> <li>The number line</li> </ul>	<p style="text-align: center;"><b><u>Number: Addition and Subtraction (within 10)</u></b></p> <p><b><u>End Goals</u></b></p> <ul style="list-style-type: none"> <li>RTP: NF1 Develop fluency in addition and subtraction facts within 10.</li> <li>RTP: AS1 Compose numbers to 10 from 2 parts, and partition numbers to 10 into parts, including recognising odd and even numbers.</li> <li>RTP: AS2 Read, write and interpret equations containing addition (+), subtraction (-) and equals (=) symbols, and relate additive expressions and equations to real-life contexts.</li> <li>NC: read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs</li> <li>NC: represent and use number bonds and related subtraction facts within 20</li> <li>NC: add and subtract one-digit including 0</li> <li>NC: solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as <math>7 = ? - 9</math></li> </ul> <p><b><u>Small steps</u></b></p> <ul style="list-style-type: none"> <li>Part-whole models</li> <li>Write number sentences with the addition symbol</li> <li>Fact families (addition facts)</li> <li>Bonds for numbers within 10</li> <li>Adding together and adding more</li> <li>Addition problems</li> <li>Finding part of the whole</li> <li>Fact families (including subtraction, recognise the relationship between addition and subtraction)</li> <li>Subtraction – take away/cross out. How many left?</li> <li>Subtract on a number line</li> <li><b>Equivalence and non-equivalence</b> - Compare addition and subtraction statements with <math>&gt;</math> <math>&lt;</math> <math>=</math> e.g. <math>4 + 1 &gt; 4 - 1</math></li> </ul>	<p style="text-align: center;"><b><u>Geometry: Shape</u></b></p> <p><b><u>End Goals</u></b></p> <ul style="list-style-type: none"> <li>RTP: G1 Recognise common 2D and 3D shapes presented in different orientations, and know that rectangles, triangles, cuboids and pyramids are not always similar to one another.</li> <li>NC: recognise and name common 2-D and 3-D shapes, including: 2-D shapes [for example, rectangles (including squares), circles and triangles] 3-D shapes [for example, cuboids (including cubes), pyramids and spheres].</li> </ul> <p><b><u>Small steps</u></b></p> <ul style="list-style-type: none"> <li>Recognise and name 3D shapes</li> <li>Sort 3D shapes (cube, cuboid, cylinder, pyramid, cone, sphere, hemisphere)</li> <li>Recognise and name 2D shapes</li> <li>Sort 2D shapes (circle, semi circle, triangle, rectangle, square)</li> <li>Patterns with 2D and 3D shapes</li> </ul> <p style="background-color: yellow;"><b>Introduce the 'vertex and vertices' to replace 'corner'</b></p>
	<p style="text-align: center;"><b><u>Recap focus</u></b></p> <ul style="list-style-type: none"> <li>Subitising 1-5</li> <li>Even and odd to 10</li> <li>Time (morning, afternoon, evening, night)</li> </ul>	<p style="text-align: center;"><b><u>Recap focus</u></b></p> <ul style="list-style-type: none"> <li>Shape – straight and curved sides</li> <li>Time (comparison of time periods e.g. day, week, year, month)</li> </ul>	<p style="text-align: center;"><b><u>Recap focus</u></b></p> <ul style="list-style-type: none"> <li>Compare numbers to 10</li> <li>Measure (compare objects by height)</li> </ul>

# YEAR 1 Spring SMALL STEPS AND END GOALS

<b>Spring</b>	<p style="text-align: center;"><b>Number: Place Value (within 20)</b></p> <p><b>End Goals</b></p> <ul style="list-style-type: none"> <li>RTP: NPV1 Count within 100, forwards and backwards, starting with any number.</li> <li>RTP: NPV2 Reason about the location of numbers to 20 within the linear number system, including comparing using <math>&lt;</math> <math>&gt;</math> and <math>=</math></li> <li>NC: given a number, identify 1 more and 1 less</li> <li>NC: identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least</li> <li>NC: read and write numbers from 1 to 20 in numerals and words.</li> </ul> <p><b>Small steps</b></p> <ul style="list-style-type: none"> <li>Count forward and backwards, understand, represent and write numbers to 20 in numerals and words – explore ‘teen’ suffix</li> <li>Count one more and one less</li> <li>Use a number to 20</li> <li>Compare numbers to 20</li> <li>Order and order numbers to 20</li> </ul>	<p style="text-align: center;"><b>Number: Addition and Subtraction (within 20)</b></p> <p><b>End Goals</b></p> <ul style="list-style-type: none"> <li>RTP: AS2 Read, write and interpret equations containing addition (+), subtraction (-) and equals (=) symbols, and relate additive expressions and equations to real-life contexts.</li> <li>NC: read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs</li> <li>NC: represent and use number bonds and related subtraction facts within 20</li> <li>NC: add and subtract one-digit and two-digit numbers to 20, including 0</li> <li>NC: solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as <math>7 = ? - 9</math></li> </ul> <p><b>Small steps</b></p> <ul style="list-style-type: none"> <li>Add by counting on (commutativity and efficiency of starting with largest number)</li> <li>Use knowledge of number bonds within 20</li> <li>Doubles and near doubles (e.g. <math>8 + 7 = \text{double } 7 + 1</math>)</li> <li>Subtraction (using known facts e.g. <math>6 - 4 = 2</math> so <math>16 - 4 = 12</math>)</li> <li>Subtraction – finding the difference</li> <li>Related facts – introduce bar models to show relationship between addition and subtraction</li> <li>Missing number problems</li> </ul>	<p style="text-align: center;"><b>Place value within 50</b></p> <p><b>End Goals</b></p> <ul style="list-style-type: none"> <li>RTP: NPV1 Count within 100, forwards and backwards, starting with any number.</li> <li>RTP: NF2 Count forwards and backwards in multiples of 2, 5 and 10, up to 10 multiples, beginning with any multiple, and count forwards and backwards through the odd numbers.</li> <li>NC: count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number</li> <li>NC: count, read and write numbers to 100 in numerals; count in multiples of 2s, 5s and 10s</li> <li>NC: given a number, identify 1 more and 1 less</li> <li>NC: identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least</li> <li>NC: read and write numbers from 1 to 20 in numerals and words.</li> </ul> <p style="text-align: center;"><b>Small steps</b></p> <ul style="list-style-type: none"> <li>Numbers to 50</li> <li>Counting forwards and backwards within 50 (in tens and ones)</li> <li>Count to 50 by grouping objects into tens and ones</li> <li>Partition into tens and ones</li> <li>Number line to 50</li> <li>One more one less</li> <li>Count in 2s AND count in 5s</li> </ul>	<p style="text-align: center;"><b>Measurement: Length and height</b></p> <p style="text-align: center;"><b>As practical as possible</b></p> <p><b>End Goals</b></p> <ul style="list-style-type: none"> <li>RTP: NPV2 Reason about the location of numbers to 20 within the linear number system, including comparing using <math>&lt;</math> <math>&gt;</math> and <math>=</math></li> <li>RTP: AS2 Read, write and interpret equations containing addition (+), subtraction (-) and equals (=) symbols, and relate additive expressions and equations to real-life contexts.</li> <li>NC: compare, describe and solve practical problems for lengths and heights [for example, long/short, longer/shorter, tall/short, double/half]</li> <li>NC: measure and begin to record lengths and heights</li> </ul> <p style="text-align: center;"><b>Small steps</b></p> <ul style="list-style-type: none"> <li>Compare lengths and heights – longer, shorter, taller</li> <li>Measuring lengths (non-standard units e.g. cubes, hands, straws – discussion of equal sizes for units used to measure)</li> <li>Measure length - Introducing the ruler (in cm)</li> <li>Adding and subtracting length problems</li> </ul>	<p style="text-align: center;"><b>Measurement: Mass and Volume</b></p> <p style="text-align: center;"><b>As practical as possible</b></p> <p><b>End Goals</b></p> <ul style="list-style-type: none"> <li>RTP: AS2 Read, write and interpret equations containing addition (+), subtraction (-) and equals (=) symbols, and relate additive expressions and equations to real-life contexts.</li> <li>NC: compare, describe and solve practical problems for mass / weight AND capacity and volume</li> <li>NC: measure and begin to record mass/weight AND capacity and volume</li> </ul> <p style="text-align: center;"><b>Small steps</b></p> <ul style="list-style-type: none"> <li>Introduce mass – heavier/lighter</li> <li>Measure mass – balance scales</li> <li>Compare mass – use <math>&gt;</math> <math>&lt;</math> <math>=</math> when comparing mass</li> <li>Compare volume full/empty/more/less</li> <li>Measure capacity</li> <li>Compare capacity</li> </ul>
	<p style="text-align: center;"><b>Recap focus</b></p> <ul style="list-style-type: none"> <li>Number bonds to 10</li> <li>Addition and subtraction within real life context e.g. There are 5 glasses of water, Jenny drinks 2</li> </ul>	<p style="text-align: center;"><b>Recap focus</b></p> <ul style="list-style-type: none"> <li>Name 2D shapes (square, triangle, rectangle, circle and count edges and corners)</li> <li>Recognise numbers on a number line to 20</li> </ul>	<p style="text-align: center;"><b>Recap focus</b></p> <ul style="list-style-type: none"> <li>Spot patterns in a sequence of shapes e.g. square, triangle, triangle, circle, square, triangle ...</li> <li>Compare mass (heavier and lighter)</li> </ul>	<p style="text-align: center;"><b>Recap focus</b></p> <ul style="list-style-type: none"> <li>Missing number addition and subtraction to 20 e.g. <math>15 + \underline{\quad} = 20</math></li> <li>Even and odd</li> </ul>	<p style="text-align: center;"><b>Recap focus</b></p> <ul style="list-style-type: none"> <li>Count in 2s and 10s</li> <li>3D shapes (recognise spheres, hemispheres, cubes, cuboids, pyramids, cylinders and cones)</li> </ul>



# YEAR 1 Summer SMALL STEPS AND END GOALS

	<u>Number: Multiplication and Division</u>	<u>Number: Fractions</u>	<u>Geometry: Position &amp; Direction</u>	<u>Number: Place Value (within 100)</u>	<u>Measures: Money</u>	<u>Measurement: Time</u>
<b>Summer</b>	<p><b>End Goals</b></p> <ul style="list-style-type: none"> <li>RTP: NF2 Count forwards and backwards in multiples of 2, 5 and 10, up to 10 multiples, beginning</li> <li>NC: solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.</li> </ul> <p><b>Small steps</b></p> <ul style="list-style-type: none"> <li>Count in 2s, 10s and 5s (up to 50) – seek patterns</li> <li>Recognise equal groups – groups may be arranged differently</li> <li>Add equal groups</li> <li>Make arrays – columns and rows</li> <li>Make doubles – repeated addition</li> <li>Make equal groups – grouping</li> <li>Make equal groups – sharing</li> </ul>	<p><b>End Goals</b></p> <ul style="list-style-type: none"> <li>NC: recognise, find and name a half as 1 of 2 equal parts of an object, shape or quantity</li> <li>NC: recognise, find and name a quarter as 1 of 4 equal parts of an object, shape or quantity</li> </ul> <p><b>Small steps</b></p> <ul style="list-style-type: none"> <li>Recognise and find a half – half and whole, <math>\frac{1}{2}</math> = 1 part of 2 equal parts, shared equally in two</li> <li>Recognise and find a quarter – equal parts and non-equal parts, 1 part out of 4 equal parts</li> </ul>	<p><b>End Goals</b></p> <ul style="list-style-type: none"> <li>RTP: G2 Compose 2D and 3D shapes from smaller shapes to match an example, including manipulating shapes to place them in particular orientations</li> <li>NC: describe position, directions and movements, including whole, half, quarter and three-quarter turns.</li> </ul> <p><b>Small steps</b></p> <ul style="list-style-type: none"> <li>Describe turns – full, half, quarter, three quarter turns</li> <li>Describe position – left, right, forward, backwards. Top, in-between, behind, in front, above, below, beneath</li> <li>Ordinal numbers – first, second etc.</li> </ul>	<p><b>End Goals</b></p> <ul style="list-style-type: none"> <li>RTP: NPV1 Count within 100, forwards and backwards, starting with any number.</li> <li>NC: count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number</li> <li>NC: count, read and write numbers to 100 in numerals; count in multiples of 2s, 5s and 10s</li> <li>NC: given a number, identify 1 more and 1 less</li> <li>NC: identify and represent numbers using objects and pictorial representations including the number line, and use the language of correspondence</li> </ul> <p><b>Small steps</b></p> <ul style="list-style-type: none"> <li>Counting forwards and backwards within 100 in ones and tens – introduce hundred square. Bundle to 10 to make counting easier.</li> <li>Partitioning numbers into tens and ones – place value chart</li> <li>The number line to 100</li> <li>One more, one less</li> <li>Comparing numbers with the same number of 10s – less than</li> <li>Comparing any two numbers</li> </ul>	<p><b>End Goals</b></p> <ul style="list-style-type: none"> <li>NC: recognise and know the value of different denominations of coins and notes</li> </ul> <p><b>Small steps</b></p> <ul style="list-style-type: none"> <li>Unitising e.g. one 5p coin represents a value of 5 pennies</li> <li>Recognising coins – value, representation, exchange 10 1ps for 1 10p</li> <li>Recognising notes – value, exchange, worth</li> <li>Counting in coins – count in 2s, 10s and 5s</li> </ul>	<p><b>End Goals</b></p> <ul style="list-style-type: none"> <li>NC: compare, describe and solve practical problems for time</li> <li>NC: measure and begin to record time (hours, minutes, seconds)</li> <li>NC: sequence events in chronological order using language</li> <li>NC: recognise and use language relating to dates, including days of the week, weeks, months and years</li> <li>NC: tell the time to the hour and half past the hour and draw the hands on a clock face to show these times</li> </ul> <p><b>Small steps</b></p> <ul style="list-style-type: none"> <li>Before and after – morning, afternoon, evening, ordinal numbers to describe position of events</li> <li>Dates – days of the week, today, yesterday and tomorrow, special dates</li> <li>Hours, minutes and seconds</li> <li>Time to the hour – analogue clock, o'clock, hour and minute hand, hours</li> <li>Time to the half hour – half past, half way</li> </ul>
		<p style="text-align: center;"><b>Recap focus</b></p> <ul style="list-style-type: none"> <li>Identify and name 2D shapes (square, triangle, rectangle, circle and count edges and corners)</li> <li>Recognise numbers on a number line to 20</li> </ul>	<p style="text-align: center;"><b>Recap focus</b></p> <ul style="list-style-type: none"> <li>One more and one less (crossing 10s boundary)</li> <li>Describe location on a map (centre, top, bottom, left, right)</li> </ul>	<p style="text-align: center;"><b>Recap focus</b></p> <ul style="list-style-type: none"> <li>Numbers on a number line to 50</li> <li>Time (order events in a day, week, year or lifetime)</li> </ul>	<p style="text-align: center;"><b>Recap focus</b></p> <ul style="list-style-type: none"> <li>Count in 2s, 5s and 10s</li> <li>3D shapes (recognise spheres, hemispheres, cubes, cuboids, pyramids, cylinders and cones)</li> </ul>	<p style="text-align: center;"><b>Recap focus</b></p> <ul style="list-style-type: none"> <li>Share equally and unequally</li> <li>Time – chronological order e.g. birthdays or using timeline</li> </ul>



# YEAR 2 Autumn SMALL STEPS AND END GOALS

Autumn	<p style="text-align: center;"><u>Number: Place Value</u></p> <p><b>End Goals</b></p> <ul style="list-style-type: none"> <li>RTP: NPV1 Recognise place value of each digit in 2 digit numbers; compose and decompose 2 digit numbers (standard + non- standard partitioning)</li> <li>NC: read and write numbers to at least 100 in numerals and in words</li> <li>RTP: NPV2 Reason about the location of any 2 digit number, including identifying the previous and next multiple of 10.</li> <li>NC: identify, represent and estimate numbers using different representations, including the number line</li> <li>NC: compare and order numbers from 0 up to 100; use &lt;, &gt; and = signs</li> <li>NC: count in steps of 2, 3, and 5 from 0, and in 10s from any number, forward and backward</li> <li>NC: use place value and number facts to solve problems.</li> <li>TAF = read scales in divisions of ones, twos, fives and tens</li> <li>TAF = partition any two-digit number into different combinations of tens and ones, explaining their thinking verbally, in pictures or using apparatus</li> </ul> <p><b>Small steps</b></p> <ul style="list-style-type: none"> <li>Numbers to 50 (forwards and back, tens and ones, comparing and ordering)</li> <li>Count to 100 making 10s</li> <li>Recognise tens and ones</li> <li>Place value chart – concrete, pictorial and abstract representations on/in charts</li> <li>Partition tens and ones (standard)</li> <li>Write numbers to 100 in words</li> <li>Flexible partitioning (non-standard)</li> <li>Number line to 100</li> <li>Multiples of 10 - identify the previous and next multiple of 10</li> <li>Compare objects and numbers to 100 – variation of representations and use comparison language and symbols</li> <li>Order objects and numbers to 100 – variation of representations. Use comparison and ordinal language (first, second ...)</li> <li>Counting in 2, 5 and 10s – language of even and odd</li> <li>Count in 3s – number lines, counting stick, hundred square</li> </ul>	<p style="text-align: center;"><u>Number: Addition and Subtraction</u></p> <p><b>End Goals</b></p> <ul style="list-style-type: none"> <li>RTP: NF1 Secure fluency in addition and subtraction facts within 10, through continued practice.</li> <li>NC: recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100</li> <li>RTP: AS1 Add and subtract across 10.</li> <li>NC: add and subtract numbers using various representations <u>mentally</u>, including: a two-digit and 1s, a two-digit and 10s, 2 two-digit numbers, 3 one-digit numbers</li> <li>RTP: AS2 Recognise the subtraction structure of 'difference' (How many more...?)</li> <li>NC: show that addition of 2 numbers is commutative and subtraction of one number from another is not</li> <li>NC: recognise and use the inverse relationship between addition and subtraction (use to check and solve missing number problems)</li> <li>RTP: AS3 and AS4 Add and subtract within 100: add and subtract only ones or only tens to/from a two- digit number <u>and</u> add and subtract any 2 two- digit numbers.</li> <li>NC: solve problems with addition and subtraction using representations, applying their increasing knowledge of mental and written methods</li> <li>TAF = add and subtract any 2 two-digit numbers using an efficient strategy, explaining their method verbally, in pictures or using apparatus (e.g. <math>48 + 35</math>; <math>72 - 17</math>)</li> <li>TAF = recall all number bonds to and within 10 and use these to reason with and calculate bonds to and within 20, recognising other associated additive relationships (e.g. If <math>7 + 3 = 10</math>, then <math>17 + 3 = 20</math>; if <math>7 - 3 = 4</math>, then <math>17 - 3 = 14</math>; leading to if <math>14 + 3 = 17</math>, then <math>3 + 14 = 17</math>, <math>17 - 14 = 3</math> and <math>17 - 3 = 14</math>)</li> </ul> <p><b>Small steps</b></p> <ul style="list-style-type: none"> <li>Number bonds and fact families to 20 – relationship between addition and subtraction</li> <li>Related facts and number bonds to 100 using scaling (tens e.g. <math>3 + 7 = 10</math> so <math>30 + 70 = 100</math>)</li> <li>Add and subtract 1s</li> <li>Add by making 10 (bridging through 10)</li> <li>Add three 1-digit numbers</li> <li>Add to the next ten and across 10 using knowledge of number bonds to 10</li> <li>Subtract across and from a ten using knowledge of number bonds to 10 (bridging back)</li> <li>10 more 10 less</li> <li>Add and subtract 10s</li> <li>Add two 2 digit numbers (not crossing and crossing 10)</li> <li>Subtract two 2 digit from 2 digit (not crossing and crossing 10)</li> <li>Addition and subtraction problems</li> <li>Compare addition and subtraction sentences (<math>&gt;</math><math>&lt;</math><math>=</math>)</li> <li>Missing number problems</li> </ul>	<p style="text-align: center;"><u>Geometry: Properties of Shape</u></p> <p><b>End Goals</b></p> <ul style="list-style-type: none"> <li>RTP: G1 Use precise language to describe the properties of 2D and 3D shapes, and compare shapes by reasoning about similarities and differences in properties.</li> <li>NC: identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line</li> <li>NC: identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces</li> <li>NC: identify 2-D shapes on the surface of 3-D shapes</li> <li>NC: compare and sort common 2-D and 3-D shapes and everyday objects.</li> <li>TAF = name and describe properties of 2-D and 3-D shapes, including number of sides, vertices, edges, faces and lines of symmetry.</li> </ul> <p><b>Small steps</b></p> <ul style="list-style-type: none"> <li>Recognise 2-D and 3-D shapes – in various orientations and proportions</li> <li>Count sides on 2D shapes – both regular and irregular shapes (2D shapes = triangles, squares, rectangles and circles, pentagon, hexagon, octagon)</li> <li>Count vertices on 2D shapes</li> <li>Draw 2D shapes</li> <li>Lines of symmetry – vertical line of symmetry, where shapes are being halved. Use mirrors, paper etc.</li> <li>Sort 2D shapes – Venn diagrams/tables/charts. Use previously taught language of vertex, side and symmetry</li> <li>Count faces on 3D shapes – identify 2D shapes on surface of 3D shapes (3D shapes = cuboids, cylinders, pyramids, cones and spheres, prisms)</li> <li>Count edges on 3D shapes</li> <li>Count vertices on 3D shapes</li> <li>Sort 3D shapes - Venn diagrams/tables/charts. Use previously taught language of vertex, edge and faces</li> <li>Make patterns with 2D and 3D shapes - ordinal language, predict</li> </ul>
	<p style="text-align: center;"><b>Recap focus</b></p> <ul style="list-style-type: none"> <li>Times (days of the week, times of the day e.g. morning, afternoon, evening etc)</li> <li>Number bonds to 10</li> </ul>	<p style="text-align: center;"><b>Recap focus</b></p> <ul style="list-style-type: none"> <li>Recognise and name 2D and 3D shapes (cube, cuboid, cylinder, pyramid, cone, sphere, hemisphere)</li> <li>Flexible partitioning within 100</li> </ul>	<p style="text-align: center;"><b>Recap focus</b></p> <ul style="list-style-type: none"> <li>Tell time to the hour and half hour</li> <li>Money – unitising and recognising coins</li> </ul>

## YEAR 2 Spring SMALL STEPS AND END GOALS

Spring Y2	<b>Measurement: money</b>	<b>Number: Multiplication and Division</b>	<b>Measurement: Length &amp; Height</b>	<b>Measurement: Mass, Capacity and Temperature</b>
	<p><b>End Goals</b></p> <ul style="list-style-type: none"> <li>Continue to explore RTP: NPV2 and AS1 –AS4</li> <li>NC: recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value</li> <li>NC: find different combinations of coins that equal the same amounts of money.</li> <li>NC: solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change</li> <li>TAF = use different coins to make the same amount</li> </ul> <p><b>Small steps</b></p> <ul style="list-style-type: none"> <li>Recognising coins and notes</li> <li>Count money – pence</li> <li>Count money – pounds and coins (£ symbol – record as £3 and 90p not £3.90)</li> <li>Choose notes and coins</li> <li>Make the same amount</li> <li>Compare amounts money</li> <li>Calculate with money</li> <li>Make a pound (number bonds to 100)</li> <li>Find change</li> <li>Two step problems – bar model</li> </ul>	<p><b>End Goals</b></p> <ul style="list-style-type: none"> <li>RTP: MD1 Recognise repeated addition contexts, representing them with multiplication equations and calculating the product, within the 2, 5 and 10 multiplication tables</li> <li>RTP: MD2 Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations (quotitive division).</li> <li>NC: recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including odd and even numbers</li> <li>NC: calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs</li> <li>NC: show that multiplication of 2 numbers is commutative and division is not</li> <li>NC: solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.</li> <li>TAF = recall multiplication and division facts for 2, 5 and 10 and use them to solve simple problems, demonstrating an understanding of commutativity as necessary</li> </ul> <p><b>Small steps</b></p> <ul style="list-style-type: none"> <li>Recognise equal groups – “There are _ equal groups with in each group. There are __ altogether.”</li> <li>Make equal groups</li> <li>Add equal groups – repeated addition</li> <li>Multiplication sentences (introduce and use the symbol x) – introduce to x for first time (3+3+3+3 = 4 x 3). ‘Lots of’</li> <li>Use arrays – ‘lots of’ and commutativity</li> <li>Make equal groups – grouping (encourage to link repeated addition, multiplication and division)</li> <li>Make equal groups – sharing (use 1:1 correspondence) introduced to division symbol</li> <li>2 times tables and divide by 2</li> <li>Doubles and halves</li> <li>Odd and even</li> <li>10 times table and divide by 10</li> <li>5 times table and divide by 5</li> </ul>	<p><b>End Goals</b></p> <ul style="list-style-type: none"> <li>NC: choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); to the nearest appropriate unit using rulers (tape measure etc)</li> <li>NC: compare and order lengths, mass, volume/capacity and record the results using &gt;, &lt; and =</li> </ul> <p><b>Small steps</b></p> <ul style="list-style-type: none"> <li>Measure lengths cm – using a scale (must measure from zero)</li> <li>Measure lengths m – discuss appropriate units of measure and equipment</li> <li>Compare lengths and heights - use comparative language and inequality symbols</li> <li>Order lengths and heights– use ordinal and comparative language e.g. longest</li> <li>Four operations with lengths – link to real life contexts</li> </ul>	<p><b>End Goals</b></p> <ul style="list-style-type: none"> <li>NC: choose and use appropriate standard units for mass (kg/g); temperature (°C); capacity (litres/ml) use scales, thermometers and measuring vessels</li> <li>NC: compare and order measures and record the results using &gt;, &lt; and =</li> </ul> <p><b>Small steps</b></p> <ul style="list-style-type: none"> <li>Compare mass</li> <li>Measure mass in grams – standard unit, read scales in 2, 5 and 10 intervals</li> <li>Measure mass in kilograms - standard unit, read scales in 2, 5 and 10 intervals</li> <li>Four operations for mass</li> <li>Compare volume and capacity</li> <li>Measure in millilitres - standard unit, read scales in 2, 5 and 10 intervals</li> <li>Measure in litres - standard unit, read scales in 2, 5 and 10 intervals</li> <li>Four operations for volume and capacity</li> <li>Temperature - introduced to thermometers and the units written °C for the first time</li> </ul>
<b>Recap focus</b>	<ul style="list-style-type: none"> <li>Identify odds and evens</li> <li>Identify equal and unequal groups (visual)</li> </ul>	<b>Recap focus</b>	<b>Recap focus</b>	<b>Recap focus</b>
	<ul style="list-style-type: none"> <li>Use the language to compare and describe - long/short, longer/shorter, tall/short, double/half</li> <li>Number bonds and fact families within 10 e.g. 5 + 2 = 7, 7-5 = 2</li> </ul>	<ul style="list-style-type: none"> <li>Missing number problems</li> <li>Number lines to 100 – locating numbers</li> </ul>	<ul style="list-style-type: none"> <li>Identify halves and quarters of shapes and amounts</li> <li>Times – months of the year</li> </ul>	

## YEAR 2 Summer SMALL STEPS AND END GOALS

YEAR 2 Summer SMALL STEPS AND END GOALS			
<p style="text-align: center;"><b>Number: Fractions</b></p> <p><b>End Goals</b></p> <ul style="list-style-type: none"> <li>NC: recognise, find, name and write fractions <math>\frac{1}{3}</math>, <math>\frac{1}{4}</math>, <math>\frac{2}{4}</math> and <math>\frac{3}{4}</math> of a length, shape, set of objects or quantity</li> <li>NC: write simple fractions, for example <math>\frac{1}{2}</math> of 6 = 3 and recognise the equivalence of <math>\frac{2}{4}</math> and <math>\frac{1}{2}</math>.</li> <li>TAF = identify <math>\frac{1}{4}</math>, <math>\frac{1}{3}</math>, <math>\frac{1}{2}</math>, <math>\frac{2}{4}</math>, <math>\frac{3}{4}</math> of a number or shape, and know that all parts must be equal parts of the whole</li> </ul> <p style="text-align: center;"><b>Small steps</b></p> <ul style="list-style-type: none"> <li>Introduction to parts and wholes</li> <li>Equal and unequal parts</li> <li>Recognise and find a half – consider examples and non-examples</li> <li>Recognise and find a quarter</li> <li>Recognise and find a third</li> <li>Find the whole</li> <li>Unit fractions</li> <li>Non-unit fractions</li> <li>Equivalence of <math>\frac{1}{2}</math> and <math>\frac{2}{4}</math></li> <li>Find 3 quarters</li> <li>Count in fractions up to a whole</li> </ul>	<p style="text-align: center;"><b>Measurement: Time</b></p> <p><b>End Goals</b></p> <ul style="list-style-type: none"> <li>NC: compare and sequence intervals of time</li> <li>NC: tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times.</li> <li>NC: know the number of minutes in an hour and the number of hours in a day</li> <li>TAF= read the time on a clock to the nearest 15 minutes</li> </ul> <p style="text-align: center;"><b>Small steps</b></p> <ul style="list-style-type: none"> <li>O'clock and half past</li> <li>Quarter past and quarter to</li> <li>Tell the time past and to the hour</li> <li>Telling time to 5 minutes – using 'past' and 'to' the hour</li> <li>Minutes in an hour</li> <li>Hours in a days – convert hours to minutes and hours, know there are 24 hours in a day, 60 minutes in an hour</li> <li>Find and sequence intervals of time</li> </ul>	<p style="text-align: center;"><b>Statistics</b></p> <p><b>End Goals</b></p> <ul style="list-style-type: none"> <li>RTP: MD1</li> <li>RTP: NPV2</li> <li>NC: interpret and construct simple pictograms, tally charts, block diagrams and tables</li> <li>NC: ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity</li> <li>NC: ask and answer questions about totalling and comparing categorical data</li> </ul> <p style="text-align: center;"><b>Small steps</b></p> <ul style="list-style-type: none"> <li>Make tally charts and tables– link to prior learning on 5 times tables. Systematic method of recording data.</li> <li>Block diagrams</li> <li>Draw pictograms – 1:1 concentrate on picture consistency and spacing</li> <li>Interpret pictograms – 1:1 ask questions, compare, interpret, suggest, solve problems</li> <li>Draw pictograms (2, 5, 10)– link to 2, 5 and 10 times tables</li> <li>Interpret pictograms (2, 5, 10) - ask questions, compare, interpret, suggest, solve problems</li> </ul>	<p style="text-align: center;"><b>Geometry: Position and Direction</b></p> <p><b>End Goals</b></p> <ul style="list-style-type: none"> <li>NC: order and arrange combinations of mathematical objects in patterns and sequences</li> <li>NC: use mathematical vocabulary to describe position, direction and movement including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise).</li> </ul> <p style="text-align: center;"><b>Small steps</b></p> <ul style="list-style-type: none"> <li>Language of position – left, right, forward, backwards, in front, behind, on top, bottom, above, below</li> <li>Describe movement – give directions with the unit movement as well as the direction</li> <li>Describe turns – language of full, half, quarter, three quarter, clockwise and anticlockwise</li> <li>Describe movement and turns</li> <li>Shape patterns with turns – use language from this unit to describe patters e.g. rotations</li> </ul>
<p style="text-align: center;"><b>Recap focus</b></p> <ul style="list-style-type: none"> <li>Find durations and compare e.g. Is 2 weeks longer or 1 month? – how long, longer/shorter</li> <li>Count money with pounds and pence</li> </ul>	<p style="text-align: center;"><b>Recap focus</b></p> <ul style="list-style-type: none"> <li>Identify one more and one less (crossing 10s boundary)</li> <li>2, 10 and 5 times tables</li> </ul>	<p style="text-align: center;"><b>Recap focus</b></p> <ul style="list-style-type: none"> <li>Divide by 2, 10 and 5</li> <li>Measure lengths in cm and m</li> </ul>	<p style="text-align: center;"><b>Recap focus</b></p> <ul style="list-style-type: none"> <li>Write time in seconds, minutes and hours e.g. you measure a film in hours, you measure a break time in minutes, you measure a short run in seconds</li> <li>Tell the time to the hour, half hour, quarter hour and 5 minutes</li> <li>Addition and subtraction problems</li> </ul>

Term	<b>3/4 overview</b>			
<b>Autumn</b>	<b>Number: Place Value</b>	<b>Number: Addition and Subtraction</b>		<b>Number: Multiplication and Division</b>
	<ul style="list-style-type: none"> <li>• <i>Language of 25, 50, 75, 100 must be needs to be a fluent spoken language pattern</i> <ul style="list-style-type: none"> <li>• <i>Yr 3= Multiplication tables - Divide 2, 5, 10 and recite in 4, 8, count 3, 11</i></li> <li>• <i>Yr 4 = Multiplication tables - Divide 2, 4, 5, 10, 11 and multiply 3, 8 and recite 6, 7, 9, 12</i></li> </ul> </li> </ul>			
<b>Spring</b>	<b>Number: Multiplication and Division</b>	<b>Measurement: Length, Perimeter and area</b>	<b>Number: Fractions</b>	<b>Measures: Mass and Capacity</b>
	<p style="text-align: center;"><i>Yr 3= Multiplication tables - Divide 2, 5, 10 and multiply 4, 8, recite 3, 11</i></p> <p style="text-align: center;"><i>Yr 4 = Multiplication tables - Divide 2, 3, 4, 5, 8, 10, 11 and multiply 6, 7, 9, 12</i></p>			
<b>Summer</b>	<b>Number: Decimals</b> <b>Measure: Money</b>	<b>Measurement: Time</b>	<b>Statistics</b>	<b>Geometry: Properties of shape</b> <b>Position and direction</b>
	<p style="text-align: center;"><i>Yr 3= Multiplication tables - Divide 2, 4, 5, 10 and multiply 8, 3, 11</i></p> <p style="text-align: center;"><i>Yr 4 = Multiplication tables - Divide all to 12 x 12</i></p>			

Term	<b>3/4 key vocabulary overview</b>			
<b>Autumn</b>	<p><b>Number: Place Value</b></p> <p>Yr 3 = ten times the size of, previous and next multiple of 10 or 100, ascending and descending, Scale up, regroup, interval</p> <p>Yr 4 = consecutive, integer, positive, negative (do not use minus to refer to negative numbers), closest multiple, rounded to</p>	<p><b>Number: Addition and Subtraction</b></p> <p>Yr 3 = partition, regroup, estimate, check, inverse, efficiency, Missing part, minuend, subtrahend, difference sum, addend</p> <p>Yr 4 = scaling, formal, columnar, estimate, regroup</p>	<p><b>Number: Multiplication and Division</b></p> <p>Yr 3 = Factor, product, double and double again, six fours are twenty-four (verbalise sound pattern of 3 relevant numbers), quotient, sharing (partitive), grouping (quotitive)</p> <p>Yr 4 = dividend, multiple, divisor, remainder, factor pairs, commutative, distributive, quotient, represents, correspondence problems</p>	
<b>Spring</b>	<p><b>Number: Multiplication and Division</b></p> <p>Yr 3 = Factor, product, Double and double again, six fours are twenty-four (verbalise sound pattern of 3 relevant numbers), quotient, sharing (partitive), grouping (quotitive)</p> <p>Yr 4 = dividend, multiple, divisor, remainder, factor pairs, commutative, distributive, quotient, represents, correspondence problems</p>	<p><b>Measurement: Length, Perimeter and area</b></p> <p>Yr 3 = perimeter, length (m/cm/mm), duration</p> <p>Yr 4 = metric unit, rectilinear, mm, cm, m, km (kilo), units of measure, area</p>	<p><b>Number: Fractions</b></p> <p>Yr 3 = tenths, unit/non-unit fraction, numerator, denominator mixed number, equal parts, interval</p> <p>Yr 4 = proper and improper, equivalent</p>	<p><b>Measures: Mass and Capacity</b></p> <p>Yr 3 = volume/capacity (l/ml) Grams, kilograms, mass (kg/g); litres, millilitres,</p> <p>Yr 4 = unit of measure, metric</p>
<b>Summer</b>	<p><b>Number: Decimals</b> <b>Measure: Money</b></p> <p>Yr 3 = add and subtract amounts of money to give change, using both £ and p in practical contexts</p> <p>Yr 4 = equivalent, 2 decimal places (2dp), round, nearest whole number, tenth, hundredth, estimate, compare</p>	<p><b>Measurement: Time</b></p> <p>Yr 3 = Calendar, a.m. p.m., Roman numerals, 12 hour clock and 24 hour clock, analogue and digital, use vocabulary such as o'clock, am/pm, morning, afternoon, noon and midnight, duration, year and leap year</p> <p>Yr 4 = convert, approximately, difference</p>	<p><b>Statistics</b></p> <p>Yr 3 = interpret, present, pictogram, bar chart, frequency table, Venn diagram, axis/axes</p> <p>Yr 4 = interpret, present discrete and continuous data, using appropriate, time graphs, Carroll diagram</p>	<p><b>Geometry: Properties of shape</b> <b>Position and direction</b></p> <p>Yr 3 = 2-D shapes and 3-D shapes, parallel, perpendicular, polygon, polyhedron, sphere, cuboid, cylinder, pyramid, cone, prism, horizontal, vertical, orientation, angles, turn, greater than, less than, half turn, right angle, quarter turn, clockwise, anti-clockwise</p> <p>Yr 4 = quadrilateral, triangle, regular, irregular, symmetry, orientation, edge, vertex, isosceles, equilateral, scalene, trapezium, parallelogram, rhombus, interior angles, acute, obtuse, straight line, properties, coordinates, plot, translation, first quadrant, x and y axis</p>

## 3/4 Autumn END GOALS

Number: Place Value		Number: Addition and Subtraction		Number: Multiplication and Division	
3	4	3	4	3	4
<ul style="list-style-type: none"> <li>• NPV1 Know that 10 tens are equivalent to 1 hundred, and that 100 is 10 times the size of 10; apply this to identify and work out how many 10s there are in other three-digit multiples of 10.</li> <li>• NPV2 Recognise the place value of each digit in three-digit numbers, and compose and decompose three-digit numbers using standard and non-standard partitioning.</li> <li>• NPV3 Reason about the location of any three-digit number in the linear number system, including identifying the previous and next multiple of 100 and 10.</li> <li>• NPV4 Divide 100 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 100 with 2, 4, 5 and 10 equal parts.</li> <li>• NC: solve number problems and practical problems involving these ideas</li> </ul>	<ul style="list-style-type: none"> <li>• NPV1 Know that 10 hundreds are equivalent to 1 thousand, and that 1,000 is 10 times the size of 100; apply this to identify and work out how many 100s there are in other four-digit multiples of 100.</li> <li>• NPV2 Recognise the place value of each digit in four-digit numbers, and compose and decompose four-digit numbers using standard and non-standard partitioning. NC: identify, represent and estimate numbers using different representations</li> <li>• NPV3 Reason about the location of any four-digit number in the linear number system, including identifying the previous and next multiple of 1,000 and 100 (AND 10), and rounding to the nearest of each.</li> <li>• NC: count backwards through 0 to include negative numbers</li> <li>• NC: solve number and practical problems that involve all of the above and with increasingly large positive numbers</li> <li>• NC: count in multiples of 25 and 1,000</li> <li>• NC: read Roman numerals to 100 and know that over time, the numeral system changed to include 0 and place value</li> </ul>	<ul style="list-style-type: none"> <li>• AS1 Calculate complements to 100, for example: <math>46 + ? = 100</math></li> <li>• AS2 Add and subtract up to three-digit numbers using columnar methods.</li> <li>• AS3 Manipulate the additive relationship: Understand the inverse relationship between addition and subtraction, and how both relate to the part-part-whole structure. Understand and use the commutative property of addition, and understand the related property for subtraction.</li> <li>• NF1 Secure fluency in addition and subtraction facts that bridge 10, through continued practice.</li> <li>• NF3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10).</li> <li>• NC: solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.</li> </ul>	<ul style="list-style-type: none"> <li>• NF3 Apply place-value knowledge to known additive facts (scaling facts by 100)</li> <li>• NC: add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate</li> <li>• NC: estimate and use inverse operations to check answers to a calculation</li> <li>• NC: solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.</li> </ul>	<ul style="list-style-type: none"> <li>• MD1 Apply known multiplication and division facts to solve contextual problems with different structures, including quotitive and partitive division.</li> <li>• NF2 Recall multiplication facts, and corresponding division facts, in the 10, 5, 2, 4 and 8 multiplication tables, and recognise products in these multiplication tables as multiples of the corresponding number</li> <li>• NF3</li> <li>• NPV1</li> <li>• NC: solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects</li> </ul>	<ul style="list-style-type: none"> <li>• NF1 Recall multiplication and division facts up to <math>12 \times 12</math> and recognise products in multiplication tables as multiples of the corresponding number.</li> <li>• NF3 Apply place-value knowledge to known multiplicative number facts (scaling facts by 100)</li> <li>• MD1 Multiply and divide whole numbers by 10 and 100 (keeping to whole number quotients); understand this as equivalent to making a number 10 or 100 times the size.</li> <li>• MD2 Manipulate multiplication and division equations, and understand and apply the commutative property of multiplication.</li> <li>• NC: count in multiples of 6, 7, 9, 25 and 1,000</li> </ul>

## 3/4 Autumn SMALL STEPS

Number: Place Value		Number: Addition and Subtraction		Number: Multiplication and Division	
Yr 3 Small steps	Yr 4 Small steps	Yr 3 Small steps	Yr 4 Small steps	Yr 3 Small steps	Yr 4 Small steps
<ul style="list-style-type: none"> <li>• Represent numbers to 100, Partition numbers to 100, Number line to 100 - use <b>base 10, number lines, bundles, place value charts</b></li> <li>• <b>Partition with 100 - Divide 100 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 100 with 2, 4, 5 and 10 equal parts.</b></li> <li>• Hundreds – <b>ten tens make 100, count in multiples of 100 to 1000</b></li> <li>• Represent numbers to 1000 – <b>base 10, hundreds, tens and ones, part whole, number lines, place value grids,</b></li> <li>• Partition numbers to 1000</li> <li>• Flexible partitioning of numbers to 1000</li> <li>• 1, 10 and 100 more or less</li> <li>• Number line to 1,000</li> <li>• Compare numbers to 1000 – <b>various representations</b></li> <li>• Order numbers to 1000 – <b>ascending and descending</b></li> <li>• Count in 50s – <b>multiples of 5 and 10 (scale up)</b></li> </ul>	<ul style="list-style-type: none"> <li>• Representing numbers to 1000 – <b>Base 10 to show digit size. Zero in different places.</b></li> <li>• Partition numbers to 1000 – <b>Value of digits</b></li> <li>• Number line to 1000 – <b>Estimate, position and locate numbers on a number line where scale varies</b></li> <li>• 1,000s – <b>Explore what a thousand is. How many hundreds are in __ thousand?</b></li> <li>• Representing numbers to 10,000 – <b>Base 10 to show digit size. Zero in different places.</b></li> <li>• Partition numbers to 10,000 – <b>Standard and non-standard/flexible</b></li> <li>• Find 1, 10, 100 and 1000 more or less – <b>Cross 10/100/1000s barrier.</b></li> <li>• Number line to 10,000 – <b>Estimate, position and locate numbers on a number line where scale varies</b></li> <li>• Compare numbers – <b>Vary representations to compare</b></li> <li>• Order numbers</li> <li>• Roman numerals to 100</li> <li>• Round to the nearest 10 – <b>Number lines. Refer to previous and next multiple of 10</b></li> <li>• Round to nearest 100 - <b>Number lines. Refer to previous and next multiple of 100</b></li> <li>• Round to nearest 1000 - <b>Number lines. Refer to previous and next multiple of 1000</b></li> <li>• Round to nearest 10, 100 and 1000</li> <li>• <b>Count in 25s</b></li> <li>• <b>Negative numbers (count backwards through zero) –First time encounter negative numbers</b></li> </ul>	<ul style="list-style-type: none"> <li>• Apply number bonds within 10</li> <li>• Mentally add and subtract 1s, 10s and 100s using knowledge of palce value</li> <li>• Spot the pattern (e.g. <math>444-3 = 41</math>, <math>444 - 30 = 414</math>)</li> <li>• Add ones across 10 and across 100</li> <li>• Subtract ones across 10 and across 100</li> <li>• Add and subtract numbers without exchanges</li> <li>• Add two numbers across the ten and then across the 100</li> <li>• Add two numbers across the ten and then across the 100</li> <li>• Add 2 and 3 digit numbers</li> <li>• Subtract 2 digit from 3 digit numbers</li> <li>• Complements to 100</li> <li>• Estimate answers</li> <li>• Inverse operations</li> <li>• Problem solving</li> </ul>	<ul style="list-style-type: none"> <li>• Add and subtract 1s, 10s, 100s and 1000s</li> <li>• Add up to two 4 digits – no exchange</li> <li>• Add two 4 digit with one exchange and then more than 1 exchange</li> <li>• Subtract two 4 digits numbers – no exchange</li> <li>• Subtract two 4 digit numbers with one and then more than 1 exchange</li> <li>• Efficient subtraction – <b>Compare strategies for different questions (avoid always relying on column)</b></li> <li>• Estimate answers – <b>Link to knowledge of rounding</b></li> <li>• Checking strategies – <b>Inverse operations</b></li> </ul>	<ul style="list-style-type: none"> <li>• Make equal groups</li> <li>• Arrays</li> <li>• Multiples of 2 and 5 times tables</li> <li>• Sharing and grouping</li> <li>• Multiply by 3 THEN divide by 3</li> <li>• Multiply by 4 THEN divide by 4 – <b>(double and double again)</b></li> <li>• Multiply by 8 THEN divide by 8 – <b>(double and double and double again)</b></li> <li>• 2, 4 and 8 times-tables</li> </ul>	<ul style="list-style-type: none"> <li>• Multiply and divide by 3</li> <li>• Multiply and divide by 6</li> <li>• Multiply and divide by 9</li> <li>• 3, 6 and 9 times tables</li> <li>• Multiply and divide by 7</li> <li>• Multiply and divide by 11</li> <li>• Multiply and divide by 12</li> <li>• Multiply by 1 and 0</li> <li>• Divide a number by 1 and itself</li> <li>• Multiply 3 numbers together</li> <li>• <b>Scaling facts e.g. <math>6 \times 7 = 42</math>, <math>60 \times 7 = 420</math> etc (RTP materials NF3)</b></li> </ul>
<b>Recap focus</b>		<b>Recap focus</b>		<b>Recap focus</b>	
<ul style="list-style-type: none"> <li>• Compare and sequence intervals of time</li> <li>• Read a variety of scales in divisions of ones, twos, fives and tens</li> </ul>		<ul style="list-style-type: none"> <li>• Identify 2D shapes and their properties</li> <li>• Recall the two, five and ten times tables</li> <li>• Recall number bonds within and to 10</li> </ul>		<ul style="list-style-type: none"> <li>• Recall the number of minutes in an hour and the number of hours in a day</li> <li>• Add a two digit number to a one digit number (bridging the ten)</li> <li>• Reason about the location of any 2 digit number, including identifying the previous and next multiple of 10 – identify the previous and next multiple of 10 for any two digit number</li> </ul>	



## 3/4 Spring END GOALS

Number: Multiplication and Division		Measurement: Length, Perimeter and area		Number: Fractions		Measures: Mass and Capacity Number: Decimals	
3	4	3 = Length and perimeter	4 = Length, perimeter and area	3	4	3 = Measure	4 = Decimals
<ul style="list-style-type: none"> <li>• MD1</li> <li>• NC: recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables</li> <li>• NC: write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods</li> <li>• NC: solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects</li> </ul>	<ul style="list-style-type: none"> <li>• NF1, NF3, MD2</li> <li>• MD3 Understand and apply the distributive property of multiplication</li> <li>• NF2 Solve division problems, with two-digit dividends and one-digit divisors, that involve remainders</li> <li>• NC: use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together 3 numbers</li> <li>• NC: recognise and use factor pairs and commutativity in mental calculations</li> <li>• NC: multiply two-digit and three-digit numbers by a one-digit number using formal written layout</li> <li>• NC: solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by 1 digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.</li> </ul>	<ul style="list-style-type: none"> <li>• NPV2, AS2 and NPV3</li> <li>• NC: measure, compare, add and subtract: lengths (m/cm/mm)</li> <li>• NC: measure the perimeter of simple 2-D shapes</li> </ul>	<ul style="list-style-type: none"> <li>• NPV4 Divide 1,000 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 1,000 with 2, 4, 5 and 10 equal parts.</li> <li>• G2 Find the perimeter of regular and irregular polygons.</li> <li>• NC: convert between different units of measure</li> <li>• NC: measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres</li> <li>• NC: find the area of rectilinear shapes by counting squares</li> </ul>	<ul style="list-style-type: none"> <li>• F1 Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts (unit fractions and non-unit fractions with small denominators)</li> <li>• F2 Find unit fractions of quantities using known division facts (multiplication tables fluency).</li> <li>• F3 Reason about the location of any fraction within 1 in the linear number system.</li> <li>• NC: count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10</li> <li>• NC: recognise and show, using diagrams, equivalent fractions with small denominators</li> <li>• NC: compare and order unit fractions, and fractions with the same denominators</li> <li>• F4 Add and subtract fractions with the same denominator, within 1.</li> <li>• NC solve problems that involve all of the above</li> </ul>	<ul style="list-style-type: none"> <li>• F1 Reason about the location of mixed numbers in the linear number system.</li> <li>• F2 Convert mixed numbers to improper fractions and vice versa.</li> <li>• F3 Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers.</li> <li>• NC: recognise and show, using diagrams, families of common equivalent fractions</li> <li>• NC: count up and down in hundredths; recognise that hundredths arise when dividing an object by a 100 and dividing tenths by 10.</li> <li>• NC: solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number</li> <li>• NC: solve simple measure and money problems involving fractions and decimals to 2 decimal places</li> </ul>	<ul style="list-style-type: none"> <li>• NC: measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)</li> </ul>	<ul style="list-style-type: none"> <li>• NC: find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths</li> <li>• NC: recognise and write decimal equivalents of any number of tenths or hundredths</li> </ul>

## 3/4 Spring SMALL STEPS

Number: Multiplication and Division		Measurement: Length, Perimeter and area		Number: Fractions		Measures: Mass and Capacity Number: Decimals	
Multiplication and Division	Multiplication and Division	Length and Perimeter	Length, Perimeter and area	Fractions	Fractions	Mass and capacity	Decimals
<ul style="list-style-type: none"> <li>• Multiples of 10</li> <li>• Related calculations</li> <li>• Reasoning about multiples</li> <li>• Multiply 2 digit by 1 digit – <b>with no exchange and then with exchange</b></li> <li>• Link multiplication and division</li> <li>• Divide 2 digit by 1 digit – <b>with no exchange, using flexible partitioning and then with a remainder</b></li> <li>• Scaling – ‘as many’ e.g. 3 times as many girls as boys. Use bar models</li> <li>• How many ways? – <b>systematic, combinations</b></li> </ul>	<ul style="list-style-type: none"> <li>• Factor pairs – factor x factor = product</li> <li>• Multiply by 10 and 100</li> <li>• Divide by 10 and 100</li> <li>• Related facts</li> <li>• Information written methods for multiplication</li> <li>• <b>Understand and apply the distributive property of multiplication (RTP materials MD3)</b></li> <li>• Multiply 2 digit number by 1 digit number</li> <li>• Multiply 3 digit number by 1 digit – <b>teach misconception of when 0 is in tens column e.g. 305 x 7</b></li> <li>• Divide 2 digit number by 1 digit number <b>include regrouping</b></li> <li>• Divide 3 digit numbers by 1 digit number - <b>partition</b></li> <li>• Correspondence problems – <b>all combinations an possibilities</b></li> <li>• Efficient multiplication</li> </ul>	<ul style="list-style-type: none"> <li>• Measure in metres and centimetres</li> <li>• Measure in mm and cm</li> <li>• Measure in m, cm and mm</li> <li>• Equivalent lengths – m and cm</li> <li>• Equivalent lengths – mm and cm</li> <li>• Equivalent lengths – m, cm and mm</li> <li>• Compare lengths – <b>comparative language after conversion to appropriate units</b></li> <li>• Add and subtract lengths – <b>convert and add lengths in appropriate unit using addition strategies</b></li> <li>• What is perimeter? <b>introduced to perimeter for the first time</b></li> <li>• Measure perimeter -</li> <li>• Calculate perimeter – <b>use properties of 2D shapes to support calculation of perimeter</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Divide 1,000 into 2, 4, 5 and 10 equal parts, and read scales accordingly for mm, cm, m and km (RTP materials NVP4)</b></li> <li>• Measure in Kilometres and metres – <b>multiply and divide by 1000</b></li> <li>• Equivalent lengths Kilometres and metres – <b>multiply and divide by 1000</b></li> <li>• Perimeter on a grid</li> <li>• Perimeter of a rectangle</li> <li>• Perimeter of a <b>rectilinear</b> shape</li> <li>• Find the missing length on a rectilinear shape</li> <li>• Problem solving (perimeter of rectilinear shapes)</li> <li>• Perimeter of regular and irregular polygons</li> <li>• What is area? – <b>introduced to the idea of area for the first time</b></li> <li>• Counting squares – <b>on rectilinear shapes</b></li> <li>• Making shapes – <b>make shapes of a given area using squares</b></li> <li>• Comparing area – <b>of rectilinear shapes using &gt;&lt; =</b></li> </ul>	<ul style="list-style-type: none"> <li>• Understand denominator of a unit fraction</li> <li>• Compare and order unit fractions</li> <li>• Non unit fractions</li> <li>• Understand the whole</li> <li>• Compare and order non-unit fractions</li> <li>• Fractions and scales</li> <li>• Identify and count fractions on a number line</li> <li>• Equivalent fractions – number line and bar model</li> <li>• Add and subtract fractions</li> <li>• Partition the whole</li> <li>• Fractions of an amount – <b>unit fractions leading to non-unit fractions</b></li> <li>• Reasoning with fractions of amounts</li> </ul>	<ul style="list-style-type: none"> <li>• Understanding the whole</li> <li>• Fractions greater than 1 – <b>parts in a whole, proper and improper, mixed numbers</b></li> <li>• Partitioning a mixed number</li> <li>• Number lines with mixed numbers</li> <li>• Compare and order mixed numbers</li> <li>• Understand improper fractions</li> <li>• Convert mixed numbers to improper</li> <li>• Convert improper to mixed numbers</li> <li>• Equivalent fractions on a number line</li> <li>• Equivalent fraction families</li> <li>• Add two or more fractions</li> <li>• Add fractions and mixed numbers</li> <li>• Subtract two fractions</li> <li>• Subtract from a whole– <b>not just 1, but also 2 etc. e.g. 2 = 18/9 so 2 – 3/9 = 18/9 – 3/9</b></li> <li>• Subtract from a mixed number</li> </ul>	<ul style="list-style-type: none"> <li>• Use scales and measure mass –</li> <li>• Equivalent mass</li> <li>• Compare mass – <b>convert to appropriate unit</b></li> <li>• Add and subtract mass – <b>convert then add or subtract</b></li> <li>• Measure capacity and volume</li> <li>• Equivalent capacity and volume</li> <li>• Compare capacity and volume</li> <li>• Add and subtract capacity and volume</li> </ul>	<ul style="list-style-type: none"> <li>• Tenths as fractions and decimals - <b>important to see size compared to 1 whole</b></li> <li>• Tenths on a place value chart and number line</li> <li>• Divide a 1-digit and a 2-digit number by 10 - <b>link to place value chart or gattegno</b></li> <li>• Hundredths as fractions and decimals</li> <li>• Hundredths on a place value chart</li> <li>• Divide a 1- or 2-digit number by 100</li> </ul>
<b>Recap focus</b>		<b>Recap focus</b>		<b>Recap focus</b>		<b>Recap focus</b>	
<ul style="list-style-type: none"> <li>• Recognise the place value of digits in a three digit number and compare and order them</li> <li>• Find unit fractions of amounts (relating division language e.g. 56/7 is one seventh of 56)</li> </ul>		<ul style="list-style-type: none"> <li>• Identify 3D shapes and their properties</li> <li>• Use and recognise equivalent simple fractions – <math>2/4 = 1/2</math> etc.</li> <li>• Complements to 100</li> </ul>		<ul style="list-style-type: none"> <li>• Interpret tally charts and draws tallies based on data collection</li> <li>• Tell the time to 5 minutes</li> </ul>		<ul style="list-style-type: none"> <li>• Fractions of amounts (unit fractions)</li> <li>• Read temperature and solve simple addition and subtraction problems e.g. 3 degrees warmer than 5 degrees.</li> </ul>	

## 3/4 Summer END GOALS

Number: Decimals Measure: Money		Measurement: Time		Statistics		Geometry: Properties of shape	
3 = Consolidation of place value and money	4 = Decimals and money	3 = Time	4 = Time	3 =Statistics	4 = Statistics	3 =Properties of shape	4 = Properties of shape and Position and Direction
<ul style="list-style-type: none"> <li>NPV2 and AS2</li> <li>NPV4 Divide 100 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 100 with 2, 4, 5 and 10 equal parts.</li> <li>NC: add and subtract amounts of money to give change, using both £ and p in practical contexts</li> </ul>	<p><b>Decimals</b></p> <ul style="list-style-type: none"> <li>NC: compare numbers with the same number of decimal places up to 2 decimal places</li> <li>NC: recognise and write decimal equivalents to <math>\frac{1}{2}</math>; <math>\frac{3}{4}</math></li> <li>NC: round decimals with 1 decimal place to the nearest whole number</li> </ul> <p><b>Money</b></p> <ul style="list-style-type: none"> <li>NC: estimate, compare and calculate different measures, including money in pounds and pence</li> <li>NC: solve simple measure and money problems involving fractions and decimals to 2 decimal places.</li> <li>NC: round decimals with 1 decimal place to the nearest whole number</li> </ul>	<ul style="list-style-type: none"> <li>NC: tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks</li> <li>NC: estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, am/pm, morning, afternoon, noon and midnight</li> <li>NC: know the number of seconds in a minute and the number of days in each month, year and leap year</li> <li>NC: compare durations of events</li> </ul>	<ul style="list-style-type: none"> <li>NC: read, write and convert time between analogue and digital 12 and 24-hour clocks</li> <li>NC: solve problems involving converting from hours to minutes, minutes to seconds, years to months, weeks to days</li> </ul>	<ul style="list-style-type: none"> <li>NC: interpret and present data - bar charts, pictograms and tables</li> <li>NC: solve one-step and two-step questions using information presented in scaled bar charts and pictograms and tables.</li> </ul>	<ul style="list-style-type: none"> <li>NPV4 Divide 1,000 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 1,000 with 2, 4, 5 and 10 equal parts.</li> <li>NC: interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs</li> <li>NC: solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.</li> </ul>	<ul style="list-style-type: none"> <li>G1 Recognise right angles as a property of shape or a description of a turn, and identify right angles in 2D shapes presented in different orientations.</li> <li>NC: recognise that 2 right angles make a half-turn, 3 make three quarters of a turn and 4 a complete turn; identify whether angles are greater than or less than a right angle</li> <li>NC: recognise angles as a property of shape or a description of a turn</li> <li>G2 Draw polygons by joining marked points, and identify parallel and perpendicular sides. NC: identify horizontal and vertical lines</li> <li>NC: draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them</li> </ul>	<ul style="list-style-type: none"> <li>NC: identify acute and obtuse angles and compare and order angles up to 2 right angles by size</li> <li>G2 Identify regular polygons, including equilateral triangles and squares, as those in which the side-lengths are equal and the angles are equal.</li> <li>NC: compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes</li> <li>G3 Identify line symmetry in 2D shapes presented in different orientations. Reflect shapes in a line of symmetry and complete a symmetric figure or pattern with respect to a specified line of symmetry.</li> </ul> <p><b>Position and direction</b></p> <ul style="list-style-type: none"> <li>NC: describe positions on a 2-D grid as coordinates in the first quadrant</li> <li>G1 Draw polygons, specified by coordinates in the first quadrant, and translate within the first quadrant.</li> <li>NC: describe movements between positions as translations of a given unit to the left/right and up/down</li> </ul>

## 3/4 Summer SMALL STEPS

Number: Decimals Measure: Money		Measurement: Time		Statistics		Geometry: Properties of shape and Position and Direction	
3 =Money	4= Decimals and money	3 = Time	4 = Time	3 = Statistics	4 = Statistics	3 = Properties of shape	4 = Properties of shape and Position and Direction
<ul style="list-style-type: none"> <li>• Divide £1 and £10 into 2, 4, 5 and 10 parts – link to each coin</li> <li>• Pounds and pence – combining coins and notes</li> <li>• Convert £ and p</li> <li>• Add money – part-whole, bar models</li> <li>• Subtract money – number lines</li> <li>• find change – number lines</li> </ul>	<p><b>Decimals</b></p> <ul style="list-style-type: none"> <li>• Make a whole – with tenths then hundredths</li> <li>• Partition decimals – value of digits, partitioning</li> <li>• Flexibly partition decimals</li> <li>• Compare decimals – to 2dp</li> <li>• Order decimals – to 2 dp</li> <li>• Round decimals – to the nearest whole. Language of previous and next multiple of 1</li> <li>• Halves and quarters – <math>\frac{1}{2} = 50/100</math>, <math>0.5</math>, <math>\frac{1}{4} = 25/100</math>, <math>0.25</math> and <math>\frac{3}{4} = 75/100</math>, <math>0.75</math></li> </ul> <p><b>Money</b></p> <ul style="list-style-type: none"> <li>• Write money using decimals</li> <li>• Convert between pounds and pence first time introduce to decimal notation e.g. £3.56, link to prior learning</li> <li>• Comparing and Ordering money – compare notation of pence and pounds e.g. 450p &lt; £0.45</li> <li>• Estimating money – rounding to nearest pound</li> <li>• Calculate and solve problems with money</li> </ul>	<ul style="list-style-type: none"> <li>• Roman Numerals to 12</li> <li>• Telling the time to 5 minutes</li> <li>• Telling the time to the minute</li> <li>• Using a.m. and p.m. – analogue and digital</li> <li>• Years, months and days</li> <li>• Days and hours</li> <li>• Hours and minutes (start and end times and durations)</li> <li>• Minutes and seconds</li> <li>• Units of time</li> <li>• Solving problems with time</li> </ul>	<ul style="list-style-type: none"> <li>• Years, months, weeks and days</li> <li>• Hours, minutes and seconds</li> <li>• Convert analogue to digital – 12 hours (4 digit form e.g. 09:45am)</li> <li>• Convert to and from the 24 hour clock</li> </ul>	<ul style="list-style-type: none"> <li>• Pictograms – understand value of key, consistent size and shaped symbols, parts of symbols, construct</li> <li>• Bar charts – scale of 1, 2, 5, 10,</li> <li>• Two-Way Tables</li> </ul>	<ul style="list-style-type: none"> <li>• Interpret charts – revisit bar charts, pictograms and tables for discrete data</li> <li>• Comparison, sum and difference – answer questions about discrete data</li> <li>• Interpret line graphs – continuous data (including time and negative numbers)</li> <li>• Draw line graphs</li> </ul>	<ul style="list-style-type: none"> <li>• Turns and angles – <math>\frac{1}{4}</math>, <math>\frac{1}{2}</math>, <math>\frac{3}{4}</math> turn clockwise and anti-clockwise</li> <li>• Right angles in shapes – different orientations</li> <li>• Compare angles – introduce acute and obtuse when comparing to right angles</li> <li>• Measure and draw accurately – lengths</li> <li>• Horizontal and vertical – identify in symmetry</li> <li>• Parallel and perpendicular – notation of arrows and right angle ‘square’</li> <li>• Recognise and describe 2D shapes – triangles, squares, rectangles and circles, pentagon, hexagon, heptagon, octagon, quadrilateral (just know quad means 4 sided shape in year 3)</li> <li>• Draw polygons</li> <li>• Recognise and describe 3D shapes – faces, edges and vertices (cuboids, cylinders, pyramids, cones and spheres, prisms)</li> <li>• Make 3D shapes – recognise and use nets</li> </ul>	<p><b>Properties of shape</b></p> <ul style="list-style-type: none"> <li>• Understand angles as turns</li> <li>• Identify angles – acute and obtuse with knowledge of 90 degrees and 180 degrees</li> <li>• Compare and order angles</li> <li>• Triangles – isosceles, scalene and equilateral</li> <li>• Quadrilaterals – kite, rhombus, parallelogram, trapezium</li> <li>• Polygons</li> <li>• Lines of symmetry – examples and non-examples</li> <li>• Complete a symmetric figure</li> </ul> <p><b>Position and direction</b></p> <ul style="list-style-type: none"> <li>• Describe a position – coordinates in the first quadrant (x and y axis)</li> <li>• Plot coordinates</li> <li>• Draw 2-D shapes on a grid - Mark points to make a polygon on a grid (RTP resources)</li> <li>• Translate on a grid – plot new points including moving polygons based on translation instructions</li> <li>• Describe a translation on a grid – describe how a point or polygon has translated</li> </ul>
<p><b>Recap focus</b></p> <ul style="list-style-type: none"> <li>• Recall months of the year, days in a month, days in a year</li> <li>• Recall previous and next multiples of 10 and 100 for a given two or three digit number</li> </ul>		<p><b>Recap focus</b></p> <ul style="list-style-type: none"> <li>• Recall 3D shapes and their properties</li> <li>• Add and subtract with regrouping</li> </ul>		<p><b>Recap focus</b></p> <ul style="list-style-type: none"> <li>• Divide with and without remainders</li> <li>• Money – find change and recognise coins</li> </ul>		<p><b>Recap focus</b></p> <ul style="list-style-type: none"> <li>• Money – Calculate with money (four operations)</li> <li>• Calculate perimeter (addition and subtraction recall)</li> <li>• Year 4 will need to recap - right angle in 2D shapes when orientated in different positions</li> </ul>	

**5/6 Overview**

	<b>5/6 Overview</b>				
<b>Autumn</b>	<b>Number: Place Value</b>	<b>Number: Four operations</b>		<b>Number: Fractions</b>	
<b>Spring</b>	<b>Number: Decimal and Percentages</b>	<b>Measure: Convert units</b>	<b>Number: Ratio</b>	<b>Measure: Perimeter, Area and Volume</b>	<b>Yr 5 consolidation</b>
					<b>Yr6 Number: Algebra</b>
<b>Summer</b>	<b>Geometry: Property of Shape and Position and Direction</b>	<b>Statistics</b>		<b>Investigations and consolidation</b>	

## 5/6 Key Vocabulary Overview

<b>Autumn</b>	<p><b>Number: Place Value</b></p> <p>Yr 5 = negative/positive, ascending/ descending order, ten thousand, hundred thousand, midpoint,</p> <p>Yr 6 = digit total, 10 million</p>	<p><b>Number: Four operations</b></p> <p>Yr 5 = inverse, integer, regroup, factor pair, common factor, divisibility, square number, cube number, prime number, composite number , one tenth times the size, one hundredth times the size, regroup, scale, remainders</p> <p>Yr 6 = prime factor, Highest Common Factor, Lowest Common</p>		<p><b>Number: Fractions</b></p> <p>Yr 5 = common denominator, mixed number, proper, improper, 'of', partition</p> <p>Yr 6 = Highest Common Factor, Lowest Common Multiple, Simplify</p>	
<b>Spring</b>	<p><b>Number: Decimal and Percentages</b></p> <p>Yr 5 = hundredth, zero point (0.), thousandth, percent, approximate, bonds, sequences,</p> <p>Yr 6 = thousandth, integer, equivalence</p>	<p><b>Measure: Convert units</b></p> <p>Yr 5 = Metric, imperial, inches, pounds (lb)</p> <p>Yr 6 = miles</p>	<p><b>Number: Ratio</b></p> <p>Yr 5 = scaling</p> <p>Yr 6 = Ratio, proportion, scale, scale factor, part:part relationship, multiplicative relationship</p>	<p><b>Measure: Perimeter, Area and Volume</b></p> <p>Yr 5 = compound, formula, square metre, adjacent, opposite</p> <p>Yr 6 = dimensions, cubic centimetres, cubic metres,</p>	<p><b>Yr 5 FDP consolidation</b></p> <hr/> <p><b>Yr6 Number: Algebra</b></p> <p>Yr 6 = Expression, substitute, formula, equation, represent, possibilities, enumerate, combinations, variables</p>
<b>Summer</b>	<p><b>Geometry: Property of Shape and Position and Direction</b></p> <p>Yr 5 = first quadrant, translation, reflection, point, vertex/vertices, image and object</p> <p>Yr 6 = Angles, protractor, reflex, regular, irregular, equilateral, scalene, isosceles, quadrilaterals, vertically opposite angles, interior and exterior angles</p>	<p><b>Statistics</b></p> <p>Yr 5 = discrete, continuous, two-way tables</p> <p>Yr 6 = Mean, average, pie charts, circle, circumference, diameter, radius</p>		<p><b>Investigations and consolidation</b></p>	

## 5/6 Autumn END GOALS

Number: Place Value		Number: Four operations		Number: Fractions	
<ul style="list-style-type: none"> <li>• NPV2 Recognise the place value of each digit in numbers with up to 2 decimal places, and compose and decompose numbers with up to 2 decimal places using standard and non-standard partitioning.</li> <li>• NPV3 Reason about the location of any number with up to 2 decimal places in the linear number system, including identifying the previous and next multiple of 1 and 0.1 and rounding to the nearest of each.</li> <li>• NC: read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit</li> <li>• NC: count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000</li> <li>• NC: interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through 0</li> <li>• NC: round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000</li> <li>• NC: solve number problems and practical problems that involve all of the above</li> <li>• NC: read Roman numerals to 1,000 (M) and recognise years written in Roman numerals</li> </ul>	<ul style="list-style-type: none"> <li>• NPV2 Recognise the place value of each digit in numbers up to 10 million, including decimal fractions, and compose and decompose numbers up to 10 million using standard and non-standard partitioning.</li> <li>• NPV3 Reason about the location of any number with up to 10 million, including decimal fractions, in the linear number system, and round numbers, as appropriate, including in contexts.</li> <li>• NPV4 Divide powers of 10, from 1 hundredth to 10 million, into 2, 4, 5 and 10 equal parts, and read scales/number lines with labelled intervals divided into 2, 4, 5 and 10 equal parts.</li> <li>• NC: read, write, order and compare numbers up to 10 000 000 and determine the value of each digit</li> <li>• NC: use negative numbers in context, and calculate intervals across 0</li> <li>• NC: solve number and practical problems that involve all of the above</li> </ul>	<ul style="list-style-type: none"> <li>• NF2 Apply place-value knowledge to known additive facts</li> <li>• NC: add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar)</li> <li>• NC: add and subtract numbers mentally with increasingly large numbers</li> <li>• NC: use rounding to check answers and determine, in context, levels of accuracy</li> <li>• NC: solve + AND - multi-step problems in contexts, deciding which operations and methods to use and why.</li> <li>• MD1 Multiply and divide numbers by 10 and 100; understand this as equivalent to making a number 10 or 100 times the size, or 1 tenth or 1 hundredth times the size.</li> <li>• MD2 Find factors and multiples of positive integers, including common factors and common multiples, and express a given number as a product of 2 or 3 factors.</li> <li>• NC: know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers <u>and</u> establish whether a number up to 100 is prime; recall prime numbers to 19</li> <li>• NC: multiply and divide numbers mentally drawing upon known facts</li> <li>• NC: recognise and use square numbers and cube numbers, and the notation for squared (<sup>2</sup>) and cubed (<sup>3</sup>)</li> <li>• NC: solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes</li> <li>• NC: solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.</li> <li>• MD3 Multiply any whole number with up to 4 digits by any one-digit number using a formal written method.</li> <li>• NC: multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers</li> <li>• MD4 Divide a number with up to 4 digits by a one-digit number using a formal written method, and interpret remainders appropriately for the context.</li> <li>• NC: solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign</li> </ul>	<ul style="list-style-type: none"> <li>• AS/MD-1 Understand that 2 numbers can be related additively or multiplicatively, and quantify additive and multiplicative relationships (multiplicative relationships restricted to multiplication by a whole number).</li> <li>• AS/MD2 Use a given additive or multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse relationships, and place-value understanding.</li> <li>• NC: multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication</li> <li>• NC: divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context</li> <li>• NC: divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context</li> <li>• NC: perform mental calculations, including with mixed operations and large numbers.</li> <li>• NC: identify common factors, common multiples and prime numbers</li> <li>• NC: use their knowledge of the order of operations to carry out calculations involving the 4 operations</li> <li>• NC: solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why</li> <li>• NC: solve problems involving addition, subtraction, multiplication and division</li> <li>• NC: use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.</li> </ul>	<ul style="list-style-type: none"> <li>• 5F2 Find equivalent fractions and understand that they have the same value and the same position in the linear number system.</li> <li>• 5F1 Find non-unit fractions of quantities</li> <li>• NC: compare and order fractions whose denominators are all multiples of the same number</li> <li>• NC: identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths</li> <li>• NC: recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements &gt; 1 as a mixed number</li> <li>• NC: add and subtract fractions with the same denominator and denominators that are multiples of the same number</li> <li>• NC: multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams</li> </ul>	<ul style="list-style-type: none"> <li>• 6F-1 Recognise when fractions can be simplified, and use common factors to simplify fractions.</li> <li>• 6F-2 Express fractions in a common denominator and use this to compare fractions that are similar in value.</li> <li>• 6F-3 Compare fractions with different denominators, including fractions greater than 1, using reasoning, and choose between reasoning and common denominator as a comparison strategy.</li> <li>• 6NPV-4 Divide powers of 10, from 1 hundredth to 10 million, into 2, 4, 5 and 10 equal parts, and read scales/number lines with labelled intervals divided into 2, 4, 5 and 10 equal parts.</li> <li>• NC: add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions</li> <li>• NC: multiply simple pairs of proper fractions, writing the answer in its simplest form</li> <li>• NC: divide proper fractions by whole numbers</li> <li>• NC: associate a fraction with division and calculate decimal fraction equivalents for a simple fraction.</li> </ul>



## 5/6 Autumn SMALL STEPS

Number: Place Value		Number: Four operations		Number: Fractions	
5	6	5	6	5	6
<ul style="list-style-type: none"> <li>Roman numerals (to 1000 – partitioning)</li> <li>Numbers to 10,000 – varied representations</li> <li>Numbers to 100,000 – place value grid and number lines</li> <li>Numbers to 1 million – partitioning</li> <li>Read and write numbers to 1 million</li> <li>Powers of 10 - <b>Gattegno charts, place value grids</b></li> <li>10/100/1000/10000/100,000 more or less <b>Gattegno charts, patterns, sequence</b></li> <li>Partition to 1 million</li> <li>Number lines to 1 million</li> <li>Compare and order numbers to 100,000</li> <li>Compare and order within 1 million</li> <li>Round to 10, 100 and 1000 – use language of previous and next multiple of 10/100 etc.</li> <li>Round within 100,000 – number lines and place value grids</li> <li>Round numbers within 1 million</li> <li><b>Negative numbers</b> – Understand negative numbers</li> <li>Count through zero in 1s</li> <li>Count through zero in multiples</li> <li>Compare and order negative numbers</li> <li>Find the difference</li> </ul>	<ul style="list-style-type: none"> <li><b>Recap Roman Numerals to 1000</b></li> <li>Numbers to a million</li> <li>Numbers to 10,000,000 – focus on placement of the comma</li> <li>Read and write numbers to 10,000,000</li> <li>Powers of 10</li> <li>Number line</li> <li>Compare and order any integer</li> <li><b>Divide powers of 10, from 1 hundredth to 10 million, into 2, 4, 5 and 10 equal parts, and read scales/number lines with labelled intervals divided into 2, 4, 5 and 10 equal parts</b> (RTP materials NPV - hyperlinked)</li> <li>Round any integer – number lines and use language of previous and next multiple of 10/100 etc.</li> <li><b>Negative numbers</b> – add on and subtract from positive and negatives</li> </ul>	<p><b>Addition and subtraction</b></p> <ul style="list-style-type: none"> <li><b>Mental strategies</b> (including apply place-value knowledge to additive facts e.g. <math>6 + 9 = 15</math> so <math>60 + 90 = 150</math> RTP materials NF2)</li> <li>Add integers with more than 4 digits</li> <li>Subtract integers with more than 4 digits</li> <li>Round to check</li> <li>Use inverse operations</li> <li>Multi-step addition and subtraction questions - <b>bar models to represent and solve problems</b></li> <li>Compare calculations</li> <li>Find missing numbers</li> </ul> <p><b>Multiplication and division</b></p> <ul style="list-style-type: none"> <li>Multiples and common multiples – <b>arrays, Venn diagrams</b></li> <li>Factors and common factors - <b>factor x factor = product, Venn diagrams</b></li> <li>Prime numbers (<b>refer to composite numbers</b>), square numbers (<b>refer to odd number of factors</b>) and cube numbers</li> <li>Multiply by 10, 100 and 1000</li> <li>Divide by 10, 100 and 1000</li> <li>Multiples of 10, 100 and 1000 e.g. <math>24 \times 20 = 24 \times 2 \times 10</math></li> <li>Multiply up to a 4-digit number by a 1-digit number</li> <li>Multiply a 2-digit number by a 2-digit number (area model first then formal method)</li> <li>Multiply a 2-digit, then 3-digit and finally 4-digit number by a 2-digit number</li> <li>Solve problems with multiplication</li> <li>Short division</li> <li>Divide a 4-digit number by a 1-digit number</li> <li>Divide with remainders</li> <li>Efficient division</li> <li>Solve problems with multiplication and division</li> </ul>	<ul style="list-style-type: none"> <li><b>Understand that 2 numbers can be related additively or multiplicatively, and quantify additive and multiplicative relationships</b> (RTP materials AS/MD 1) - hyperlinked</li> <li>Add and subtract integers</li> <li>Common factors</li> <li>Common multiples</li> <li>Rules of divisibility</li> <li>Primes to 100 – refer to composite</li> <li>Square and cube numbers</li> <li>Multiply up to a 4-digit number by a 2-digit number</li> <li>Solve problems with multiplication</li> <li>Short division</li> <li>Division using factors e.g. <b>4320 divided by 15 can be completed by doing 4320 divide by 5 and then by 3</b></li> <li>Introduction to long division refer to dividend and divisor</li> <li>Long division with remainders</li> <li>Solve problems with division</li> <li>Solve multi-step problems</li> <li>Order of operations - BIDMAS (<b>refer to exceptions e.g. Addition and subtraction done left to right</b>)</li> <li>Mental calculations and estimation</li> <li>Reason from known facts (Use also RTP materials AS/MD 2 - Derive related calculations)</li> </ul>	<ul style="list-style-type: none"> <li>Find fractions equivalent to a unit fraction and then non-unit fraction</li> <li>Recognise equivalent fractions</li> <li>Convert improper fractions to mixed numbers - (<b>use diagrams and associated division facts</b>)</li> <li>Convert mixed numbers to improper fractions</li> <li>Compare and order fractions less than 1</li> <li>Compare and order fractions greater than 1</li> <li>Add and subtract fractions with the same denominator</li> <li>Add fractions within 1</li> <li>Add fractions with total greater than 1</li> <li>Add to a mixed number</li> <li>Add two mixed numbers</li> <li>Subtract fractions</li> <li>Subtract from a mixed number</li> <li>Subtract from a mixed number - breaking the whole</li> <li>Subtract two mixed numbers</li> <li>Multiply a unit fraction by an integer <b>link to repeated addition</b></li> <li>Multiply a non-unit fraction by an integer - <b>reinforce concept of commutativity e.g. <math>3/6 \times 3 = 3 \times 3/6</math></b></li> <li>Multiply a mixed number by an integer - <b>multiple methods including conversion from mixed to improper then multiply, or repeated addition, or partitioning mixed number</b></li> <li>Calculate a fraction of a quantity</li> <li>Fraction of an amount</li> <li>Find the whole</li> <li>Use fractions as operators - <b>link language of 'of' to multiplication</b></li> </ul>	<ul style="list-style-type: none"> <li>Equivalent fractions and Simplify fractions</li> <li>Equivalent fractions on a number line</li> <li>Compare and order (denominator) – <b>lowest common multiple</b></li> <li>Compare and order (numerator) – <b>the larger the denominator the smaller the fraction</b></li> <li>Add and subtract simple fractions</li> <li>Add and subtract any two fractions</li> <li>Add mixed numbers</li> <li>Subtract mixed numbers</li> <li>Multi-step problems</li> <li>Multiply fractions by integers</li> <li>Multiply fractions by fractions – <b>relate to the word of e.g. <math>1/2 \times 1/4</math> is half a quarter which is <math>1/8</math></b></li> <li>Divide a fraction by an integer <b>spot the pattern materials e.g. <math>3/4</math> divided by 3 is <math>1/4</math>, <math>6/8</math> divided by 2 is <math>3/8</math> (pictorial and concrete)</b></li> <li>Mixed questions with fractions</li> <li>Fraction of an amount</li> <li>Finding the whole</li> </ul>
<p><b>Recap focus</b></p> <ul style="list-style-type: none"> <li>Mental recall of multiplication and division facts is key this unit so spend time concentrating on the speedy recall of these facts</li> <li>Tell the time to 5 minutes using analogue and digital clocks</li> </ul>		<p><b>Recap focus</b></p> <ul style="list-style-type: none"> <li>Refer to division as fractions e.g. 65 divided by 5 is the same as one fifth of 65</li> <li>Reading integers on a number line by interpreting the intervals on the scale</li> </ul>		<p><b>Recap focus</b></p> <ul style="list-style-type: none"> <li>Calculate durations of time using number lines</li> <li>Revise place value (comparing and ordering)</li> <li>Multiply and divide integers by 10, 100 and 1000</li> </ul>	

## Class 5/6 Spring END GOALS

Number: Decimal and Percentages		Measure: Convert units		Number: Ratio		Measure: Perimeter, Area and Volume		Yr 5 Consolidation Yr 6 Algebra	
5	6	5	6	5	6	5	6	5	6
<p><b>NPV1 - 4.</b></p> <p>NC: read and write decimal numbers as fractions</p> <p>NC: recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents</p> <p>NC: read, write, order and compare numbers with up to 3 decimal places</p> <p><b>F-3 and</b> NC: solve problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5 and fractions with a denominator of a multiple of 10 or 25.</p> <p>NC: recognise the per cent symbol (%) and understand that per cent relates to "number of parts per 100", and write percentages as a fraction with denominator 100, and as a decimal fraction</p> <p><b>MD1 and NF2</b></p> <p>NC: add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)</p> <p>NC: add and subtract numbers mentally with increasingly large numbers</p> <p>NC: use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy</p> <p>NC: solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.</p> <p>NC: multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000 NC: solve problems involving number up to 3 decimal places</p> <p>NC: use all four operations to solve problems involving measure using decimal notation including scaling.</p> <p>NC: solve problems involving numbers up to 3 decimal places</p>	<p><b>NPV2</b></p> <p>NC: identify the value of each digit in numbers given to three decimal places</p> <p><b>NPV1 (NC)</b> giving answers are up to three decimal places</p> <p>NC: multiply one-digit numbers with up to 2 decimal places by whole numbers</p> <p>NC: use written division methods in cases where the answer has up to 2 decimal places</p> <p>NC: solve problems which require answers to be rounded to specified degrees of accuracy</p> <p>NC: solve problems involving the calculation of percentages</p> <p>NC: recall and use equivalences between simple fractions, decimals and percentages, including in different contexts</p> <p>NC: recall and use equivalences between simple fractions, decimals and percentages, including in different contexts</p>	<p><b>NPV5 Convert between units of measure, including using common decimals and fractions.</b></p> <p>NC: understand and use approximate equivalences between metric units and common imperial units (inches, pounds, pints)</p> <p>NC: solve problems involving converting between units of time</p> <p>NC: use all four operations to solve problems involving measure using decimal notation including scaling.</p>	<p>NC: solve problems involving the calculation and conversion of units of measure, using decimal notation up to 2 decimal places where appropriate</p> <p>NC: use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to 3 decimal places</p> <p>NC: convert between miles and kilometres</p>	<p>NC: solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates</p>	<p><b>AS/MD3 Solve problems involving ratio relationships.</b></p> <p>NC: solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts</p> <p>NC: solve problems involving the calculation of %s and the use of % for comparison</p> <p>NC: solve problems involving similar shapes where the scale factor is known or can be found</p> <p>NC: solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.</p>	<p><b>G2 Compare areas and calculate the area of rectangles (including squares) using standard units.</b></p> <p>NC: including using standard units, square centimetres (cm<sup>2</sup>) and square metres (m<sup>2</sup>) and estimate the area of irregular shapes</p> <p>NC: measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres, <b>estimate</b></p> <p>NC: estimate volume and capacity</p>	<p><b>G1.</b></p> <p>NC: recognise that shapes with the same areas can have different perimeters and vice versa</p> <p>NC: recognise when it is possible to use formulae for area and volume of shapes</p> <p>NC: calculate the area of parallelograms and triangles</p> <p>NC: calculate, estimate and compare volume of cubes and cuboids using standard units(cm<sup>3</sup> and m<sup>3</sup> and other units)</p>	Consolidation	<p><b>6AS/MD-4 Solve problems with 2 unknowns.</b></p> <p>NC: use simple formulae</p> <p>NC: generate and describe linear number sequences</p> <p>NC: express missing number problems algebraically</p> <p>NC: find pairs of numbers that satisfy an equation with two unknowns</p> <p>NC: enumerate possibilities of combinations of 2 variables.</p>

## 5/6 Spring SMALL STEPS

Number: Decimal and Percentages		Measure: Convert units		Number: Ratio		Measure: Perimeter, Area and Volume		Yr 6 Algebra
5	6	5	6	5	6	5	6	6
<ul style="list-style-type: none"> <li>Decimals to 2dp</li> <li>Equivalent fractions and decimals (tenths)</li> <li>Equivalent fractions and decimals (hundredths)</li> <li>Equivalent fractions and decimals</li> <li>Understand thousandths as fractions</li> <li>Thousandths as decimals and on a place value chart</li> <li>Order and compare decimals (same number of decimal places)</li> <li>Order and compare any decimals with up to 3 decimal places</li> <li>Round to the nearest whole number</li> <li><b>Round to the nearest tenth</b></li> <li>Use known facts to add and subtract decimals within 1</li> <li>Complements to 1 – <b>bonds</b></li> <li>Add and subtract decimals across 1</li> <li>Add and subtract decimals with the same number of decimal places</li> <li>Add and subtract decimals with a different number of decimal places</li> <li>Efficient strategies for adding and subtracting decimals</li> <li>Decimal sequences</li> <li>Multiplying decimals by 10, 100 and 1,000</li> <li>Dividing decimals by 10, 100 and 1,000</li> <li>Multiply and divide decimals - missing values</li> <li>Understand percentages</li> <li>Percentages as fractions and decimals</li> <li>Equivalent fractions and decimals</li> <li><b>Divide 1 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in units of 1 with 2, 4, 5 and 10 equal parts (RTP materials for NPV4)</b></li> </ul>	<ul style="list-style-type: none"> <li>Place value within 1</li> <li>Place value – integers and decimals</li> <li>Round decimals</li> <li>Add and subtract decimals</li> <li>Multiply by 10, 100 and 1,000 – <b>refer to making 'ten times the size'</b></li> <li>Divide by 10, 100 and 1,000 – <b>refer to making '1 tenth times the size'</b></li> <li>Multiply decimals by integers - <b>link to money and measure, and scaling knowledge</b></li> <li>Divide decimals by integers</li> <li>Multiply and divide decimals in context</li> <li>Decimal and fraction equivalents</li> <li>Fractions as division</li> <li>Understand percentages</li> <li>Fractions to percentages</li> <li>Equivalent fractions, decimals and percentages</li> <li>Order fractions, decimals and percentages</li> <li>Percentage of an amount – one step</li> <li>Percentage of an amount – multi-step</li> <li>Percentages – missing values <b>bar models</b></li> </ul>	<ul style="list-style-type: none"> <li>Kilograms and kilometres</li> <li>Millimetres + millilitres</li> <li>Convert metric units of length</li> <li><b>Imperial units – first encounter</b></li> <li>Convert between metric and imperial units</li> <li>Converting units of time – <b>including fractions and decimals. Address misconception of using column method etc.</b></li> <li>Calculate with timetables</li> </ul>	<ul style="list-style-type: none"> <li>Metric measures – <b>length, mass, capacity, volume, estimate</b></li> <li>Convert metric measures</li> <li>Calculate with metric – <b>real life including scaling</b></li> <li>Miles and kilometres <b>use ≈</b></li> <li>Imperial measures – <b>real life contexts</b></li> <li><b>Recap time from year 5</b></li> </ul>	<ul style="list-style-type: none"> <li><b>Practical problem involving scaling (recipes) e.g. solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates. (hyperlinked to resources)</b></li> </ul>	<ul style="list-style-type: none"> <li>Add or multiply? (recap of additive and multiplicative relationships)</li> <li>Using ratio language - <b>'for every 1 girl, there are 2 boys'</b></li> <li>Introducing the ratio symbol</li> <li>Ratio and fractions – <b>address misconception that 1:2 is 1/2</b></li> <li>Scale drawing</li> <li>Use scale factors</li> <li>Similar shapes</li> <li>Ratio problems</li> <li>Proportion problems</li> <li>Recipes</li> </ul>	<ul style="list-style-type: none"> <li>Perimeter of a rectangle</li> <li>Perimeter of rectilinear shapes</li> <li>Perimeter of polygons</li> <li>Counting squares</li> <li>Area of rectangles</li> <li>Area of compound shapes – <b>unknown sides</b></li> <li>Estimate area</li> <li>Cubic centimetres</li> <li>Compare volume</li> <li>Estimate volume – <b>relate to real life contexts</b></li> <li>Estimate capacity - <b>relate to real life contexts (begin to read scales)</b></li> </ul>	<ul style="list-style-type: none"> <li>Shapes - <b>(rectilinear shapes with same area)</b></li> <li>Area and perimeter – <b>rectilinear shapes</b></li> <li>Area of a triangle – <b>over 3 steps (count squares, relate to rectangles, apply rule)</b></li> <li>Area of parallelogram – <b>relate to rectangle. Use examples and non-examples</b></li> <li>Volume – counting cubes</li> <li>Volume of a cuboid - <b>formula</b></li> </ul>	<ul style="list-style-type: none"> <li>One-step function machines</li> <li>Two-step function machines</li> <li>Forming expressions – <b>letter represents unknown</b></li> <li>Substitution – <b>expression can have different value depending on what is substituted in</b></li> <li>Formulae – <b>link to area and volume</b></li> <li>Forming equations</li> <li>Solve simple one-step equations – <b>bar models</b></li> <li>Solve two-step equations - <b>bar models</b></li> <li>Find pairs of values</li> <li>Solve problems with two unknowns</li> </ul>
<p><b>Recap focus</b></p> <ul style="list-style-type: none"> <li>Multiplication and division facts to 12 x 12</li> <li>Using related facts for multiplication and division e.g. 60 x 90 using knowledge of 6 x 9</li> </ul>		<p><b>Recap focus</b></p> <ul style="list-style-type: none"> <li>Calculate perimeter by adding side lengths (using lengths including decimals to 2dp)</li> <li>Polygons – identify features up to octagon</li> </ul>		<p><b>Recap focus</b></p> <ul style="list-style-type: none"> <li>Revise language of regular and irregular and relate to 2D shapes</li> <li>Compare fractions based on numerator</li> </ul>		<p><b>Recap focus</b></p> <ul style="list-style-type: none"> <li>Compare fractions based on denominator</li> <li>3D shapes and their properties</li> </ul>		<p><b>Recap focus</b></p> <ul style="list-style-type: none"> <li>Interpret data from pictograms, tables and bar charts</li> </ul>

## 5/6 Summer END GOALS

Geometry: Position and direction		Geometry: Property of Shape		Statistics		Investigations and consolidation Problem Solving
5	6	5	6	5	6	
<ul style="list-style-type: none"> <li>NC: identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed</li> </ul>	<ul style="list-style-type: none"> <li>NC: describe positions on the full coordinate grid (all 4 quadrants)</li> <li>NC: draw and translate simple shapes on the coordinate plane, and reflect them in the axes</li> </ul>	<ul style="list-style-type: none"> <li>G1 Compare angles, estimate and measure angles in degrees (<math>^{\circ}</math>) and draw angles of a given size.</li> <li>NC: acute, obtuse and reflex angles</li> <li>NC: identify: angles at a point and 1 whole turn (total <math>360^{\circ}</math>), angles at a point on a straight line and half a turn (total <math>180^{\circ}</math>) other multiples of <math>90^{\circ}</math></li> <li>NC: use the properties of rectangles to deduce related facts and find missing lengths and angles</li> <li>NC: distinguish between regular and irregular polygons based on reasoning about equal sides and angles.</li> <li>NC: identify 3-D shapes, including cubes and other cuboids, from 2-D representations</li> </ul>	<ul style="list-style-type: none"> <li>G1 Draw, compose, and decompose shapes according to given properties, including dimensions, angles and area, and solve related problems.</li> <li>NC: recognise, describe and build simple 3-D shapes, including making nets</li> <li>NC: compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons</li> <li>NC: recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.</li> </ul>	<ul style="list-style-type: none"> <li>NPV4 Divide 1 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in units of 1 with 2, 4, 5 and 10 equal parts.</li> <li>NC: solve comparison, sum and difference problems using information presented in a line graph</li> <li>NC: complete, read and interpret information in tables, including timetables</li> </ul>	<ul style="list-style-type: none"> <li>NC: illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius</li> <li>NC: interpret and construct pie charts and line graphs and use these to solve problems</li> <li>NC: calculate and interpret the mean as an average</li> </ul>	

## 5/6 Summer SMALL STEPS

Geometry: Property of Shape		Geometry: Position and direction		Statistics		Investigations and consolidation Problem Solving
5	6	5	6	5	6	
<ul style="list-style-type: none"> <li>Understand and use degrees</li> <li>Classify and estimate angles</li> <li>Measure angles up to 180 degrees</li> <li>Drawing lines and angles accurately</li> <li>Calculating angles around a point</li> <li>Calculating angles on a straight line</li> <li>Calculating lengths and angles in shapes – <b>squares, rectangles and triangles</b></li> <li>Regular and irregular polygons (including triangles, quadrilaterals, pentagon, hexagon, heptagon, octagon, nonagon, decagon)</li> <li>3D shapes – recap identifying 3D shapes and introduce the language of ‘hedron’ to describe faces (cuboids, cylinders, pyramids, cones, spheres, prisms. Hedrons (tetrahedron, hexahedron, octahedron, decahedron, dodecahedron)</li> </ul>	<ul style="list-style-type: none"> <li>Measure and classify angles</li> <li>Calculate angles</li> <li>Vertically opposite angles</li> <li>Angles in a triangle</li> <li>Angles in a triangle – special cases (<b>equilateral, isosceles</b>)</li> <li>Angles in a triangle – missing angles (<b>including exterior angles</b>)</li> <li>Angles in special quadrilaterals</li> <li>Angles polygons</li> <li>Circles</li> <li>Draw shapes accurately – <b>protractor and ruler</b></li> <li>Draw nets of 3-D shapes</li> </ul>	<ul style="list-style-type: none"> <li>Read and plot coordinates</li> <li>Problem solve with coordinates</li> <li>Translation</li> <li>Translation with coordinates</li> <li>Lines of symmetry</li> <li>Reflection in horizontal and vertical lines</li> </ul>	<ul style="list-style-type: none"> <li>The first quadrant</li> <li>Read and plot points in four quadrants</li> <li>Solve problems with coordinates</li> <li>Translations - <b>Missing coordinates</b></li> <li>Reflections – <b>through x and y axis. Missing coordinates</b></li> </ul>	<ul style="list-style-type: none"> <li>Draw line graphs – <b>scales</b></li> <li>Read and interpret line graphs – <b>estimate by reading between intervals</b></li> <li>Read and interpret line graphs</li> <li>Two-way tables – <b>try to link to foundation topics and Science work</b></li> <li>Read and interpret timetables</li> </ul>	<ul style="list-style-type: none"> <li>Line graphs</li> <li>Dual line graphs</li> <li>Read and interpret pie charts – <b>fractions, angles and division</b></li> <li>Pie charts with percentages - <b>100% of the chart = 360 degrees</b></li> <li>Draw pie charts – <b>link to prior learning</b></li> <li>The mean</li> </ul>	
<p><u>Recap focus</u></p> <ul style="list-style-type: none"> <li>Draw polygons, specified by coordinates in the first quadrant, and translate within the first quadrant.</li> <li>Formal multiplication strategies</li> </ul>		<p><u>Recap focus</u></p> <ul style="list-style-type: none"> <li>Convert mixed number to improper fractions and vice versa, and be able to reason about any mixed number on a number line</li> <li>Formal division strategies</li> </ul>		<p><u>Recap focus</u></p> <ul style="list-style-type: none"> <li>Ratio and scaling problems (involving recipes)</li> <li>Time – read to 5 minute intervals and calculate durations of time</li> </ul>		<p><u>Recap focus</u></p> <p>Consolidate ready to progress criteria for year 5 pupils.</p> <p>Use transition ‘checkpoints’ from NCETM for year 6 pupils.</p>